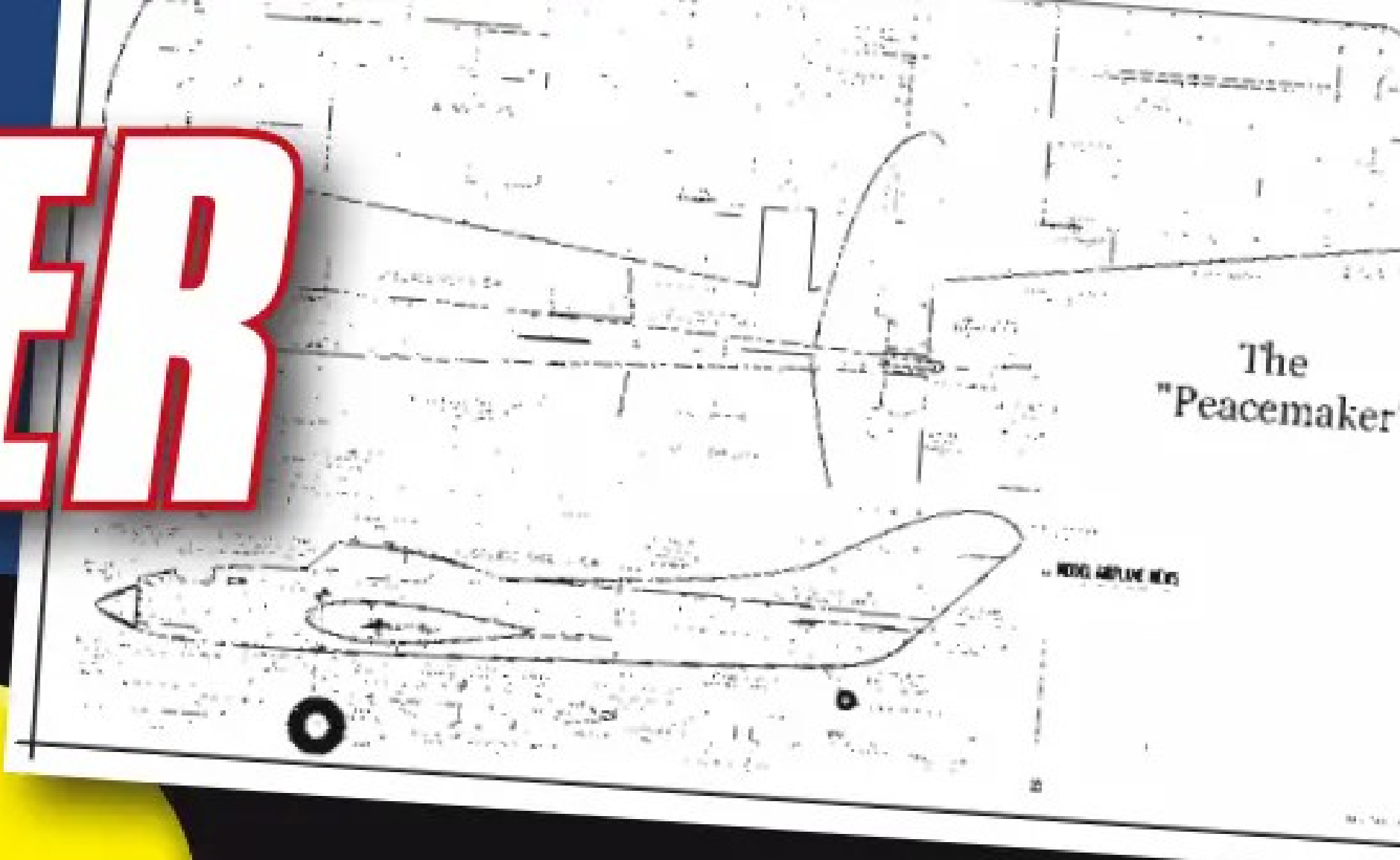
ISSUE
1062
Est. 1935

PLAN FEATURE

MIKE SPENCE'S PEACEMAKER


The
"Peacemaker"

AERO MODELLER

November 2025
No. 1062 (144) £6.99
www.aeromodeller.com

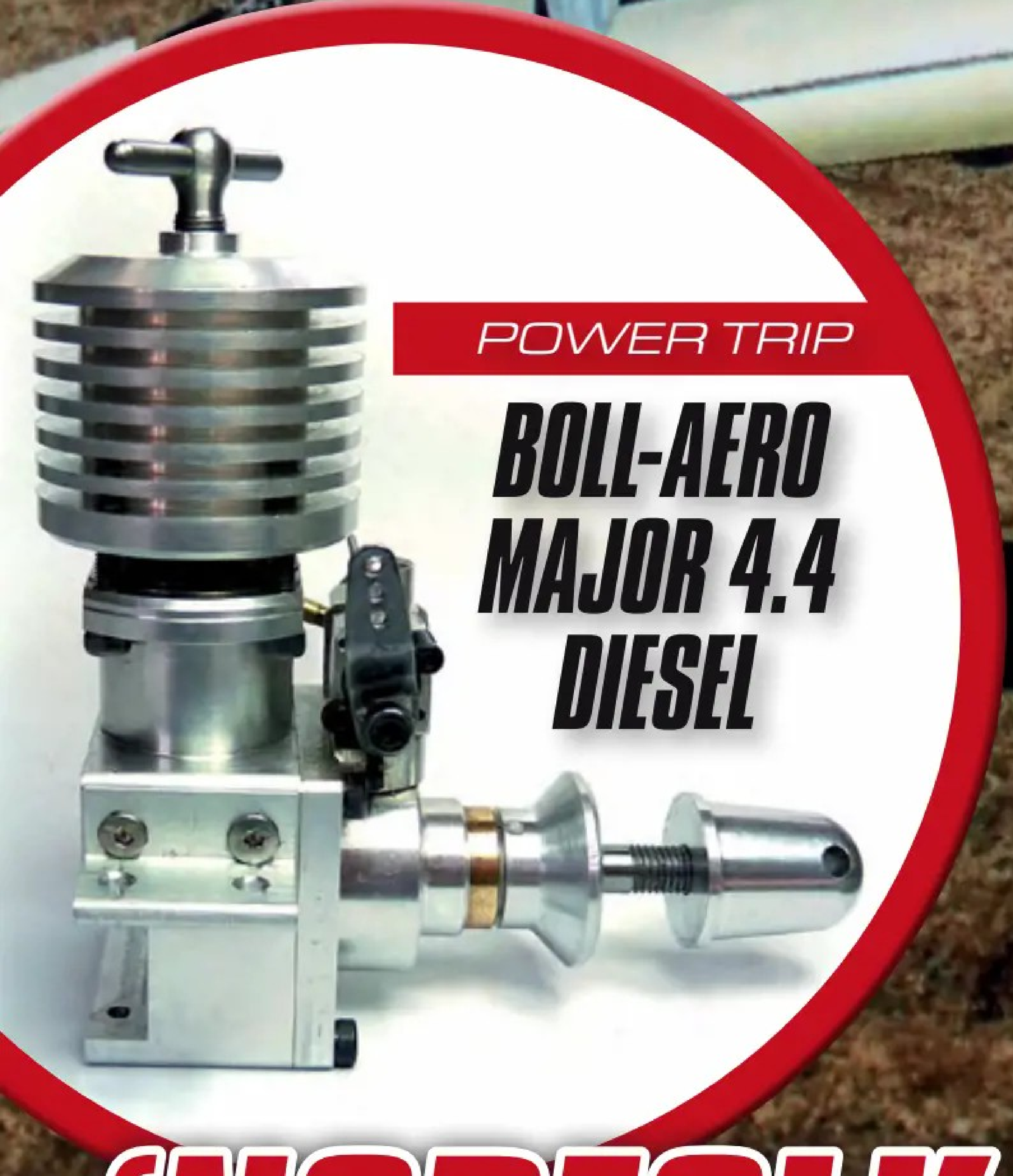
DOOLITTLE
MEDIA

11
9 770001 923028

CL SPEED NATIONALS

CONTROL LINE VINTAGE COMBAT NATIONALS

OXFORD MFC SCALE FLY-IN



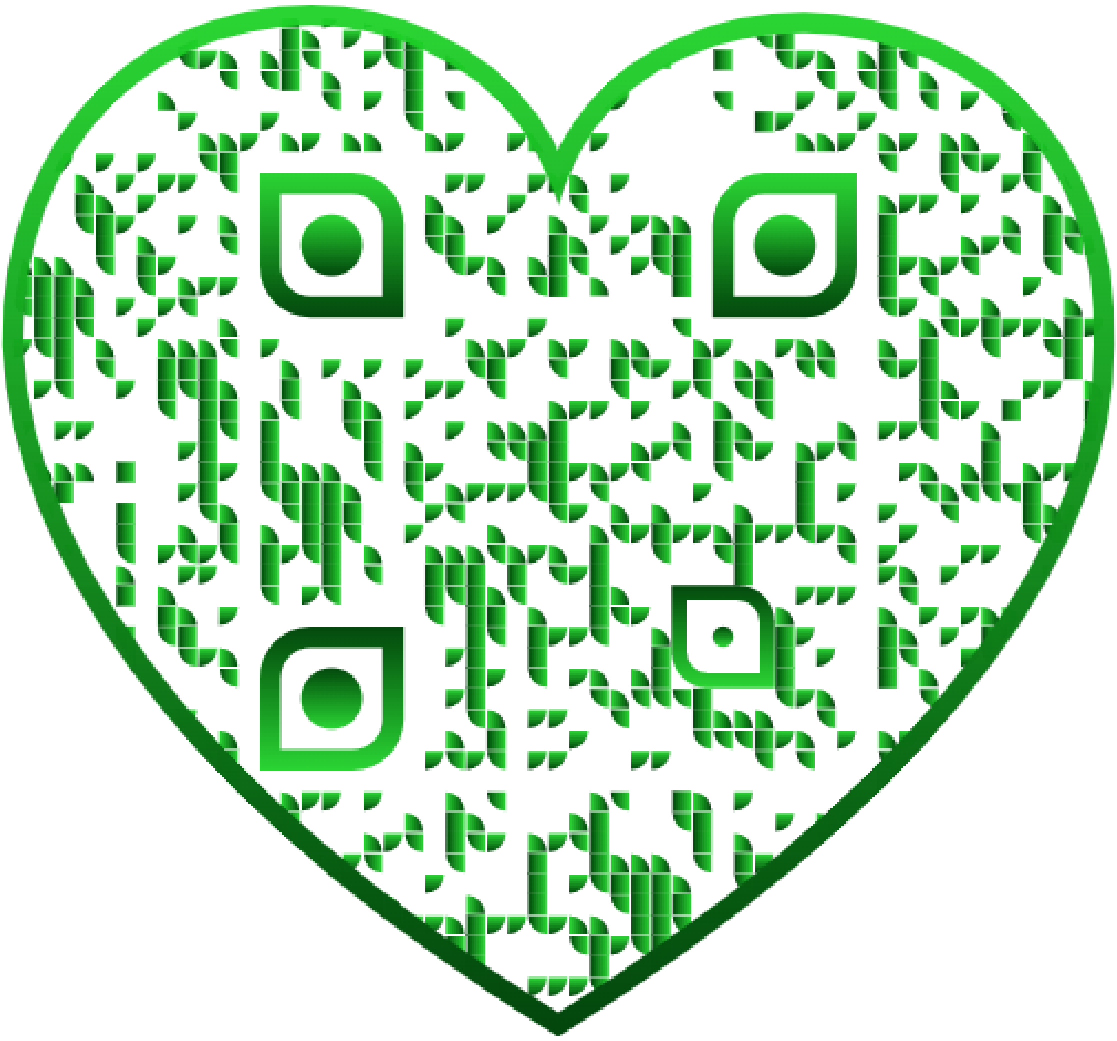
POWER TRIP

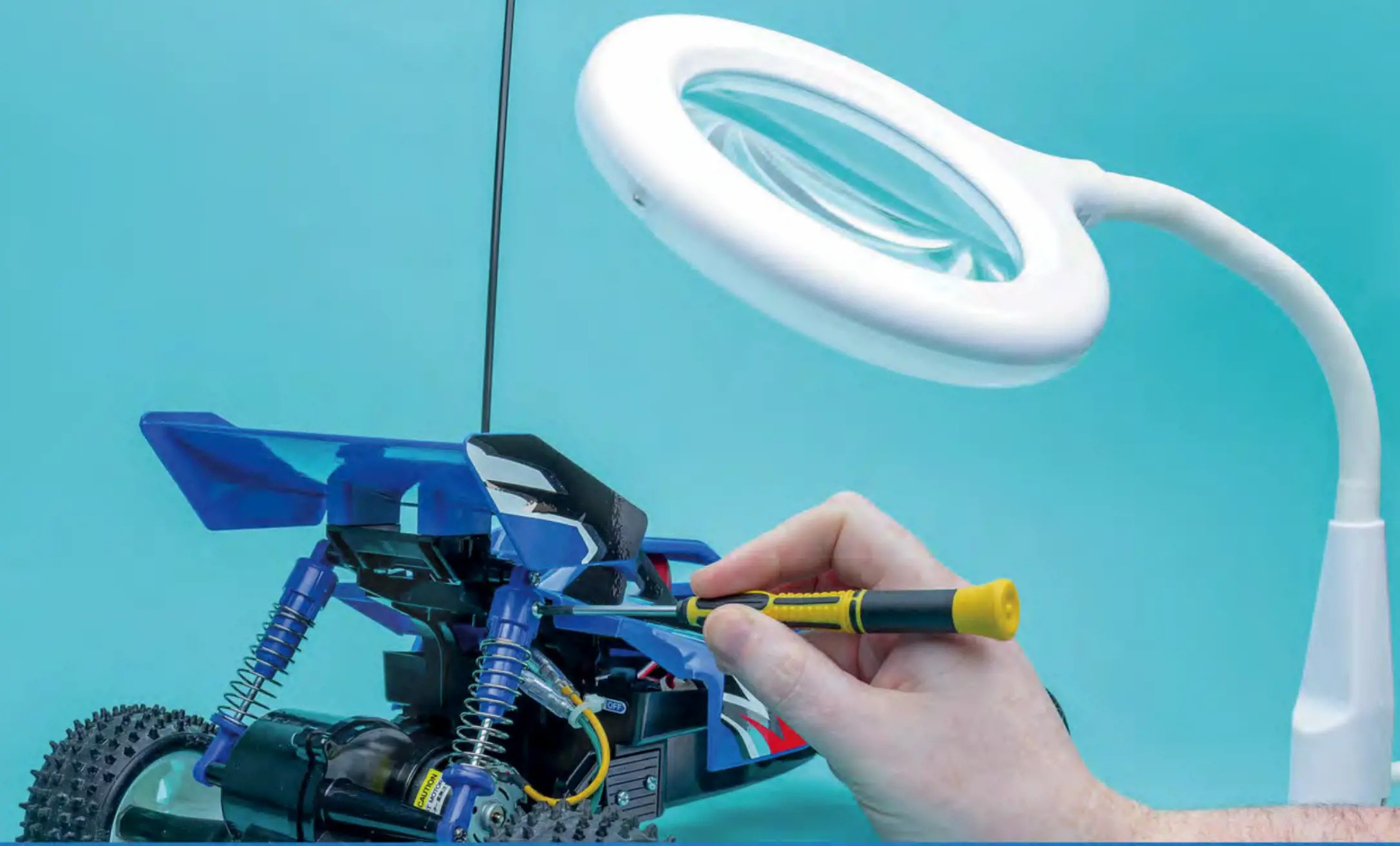
BOLL-AERO MAJOR 4.4 DIESEL

UNITED STATES AIR FORCE
UNITED STATES AIR FORCE

TONY NELSON'S INCREDIBLE 'NORFOLK MODEL AIRFORCE'

AEROMODELLER 90TH ANNIVERSARY • DOCULAM WITH DELUXE MATERIALS EZE TISSUE • FF SCALE MATTERS • MORE...





LightCraft

LED Magnifier Lamp

LC8080USB
RRP £29.99

- 36 LEDs, 6500K daylight
- High-quality 100mm glass lens
- 3 dioptre (1.75x magnification)
- Easy positioning with flexi neck
- Perfect for hobby and craft

An excellent value magnifier lamp with easily adjustable flexible neck that provides balanced, steady lighting. Cool white LEDs produce clean bright lighting that's shadow-free, cuts glare and helps reduce eye strain and headaches, perfect for detailed work.

LightCraft
LED Magnifier Lamp

+44 (0) 20 8451 6188 sales@shesto.co.uk www.shesto.co.uk

shesto
Trusted for quality, since 1907

CONTENTS

AEROMODELLER 1062 (144) NOVEMBER 2025 - Next issue published on 20th November 2025

04 HEARD AT THE HANGAR DOORS
EDITORIAL, NEWS AND VIEWS.

09 UP & COMING
CALENDAR OF EVENTS.

10 POWER TRIP - BOLL-AERO 4.4 DIESEL
MARIS DISLERS PUTS THE HOME BUILT BOLL-AERO 4.4 DIESEL THROUGH ITS PACES.

14 OXFORD MFC SCALE FLY-IN
CHRIS BRAINWOOD REPORTS ON THIS YEAR'S OXFORD MFC SCALE FLY-IN, HELD ON PORT MEADOW IN NEAR 30C TEMPERATURES.

20 PHOTO BUILD - ROMANY WITH DOCULAM AND EZE TISSUE
JOHN BRISTOW OF DELUXE MATERIALS PHOTOGRAPHED EACH STAGE OF BUILDING A VMC ROMANY, COVERED WITH DOCULAM AND THEN DELUXE MATERIALS EZE TISSUE. HERE ARE THE DETAILED STEPS.

24 STAN HORNE MEMORIAL SHIELD AND BOWDEN TROPHY CONTEST
ANDY GREEN AND ANDREW BODDINGTON REPORT ON THE STAN HORNE MEMORIAL SHIELD AND THE BOWDEN TROPHY CONTESTS, HELD THIS YEAR AT THE FF NATS AT SCULTHORPE, AND ORGANISED BY MEMBERS OF PETERBOROUGH MFC.

28 AEROMODELLER 90TH ANNIVERSARY
WE HAVE FINALLY ARRIVED AT THE ACTUAL 90TH ANNIVERSARY OF AEROMODELLER MAGAZINE. THE FIRST ISSUE OF THE MAGAZINE WAS THE NOVEMBER 1935 ISSUE, SINCE THEN THERE HAVE BEEN 1062 ISSUES OF THE MAGAZINE.

32 PLAN FEATURE - PEACEMAKER BY MIKE SPENCER
MIKE SPENCER HAS TAKEN GEORGE ALDRICH'S ORIGINAL 1950S CLASSIC 'PEACEMAKER' CL STUNT MODEL, AND HAS BROUGHT IT UP TO DATE BY CONVERTING IT INTO AN ELECTRIC POWERED RC MODEL. IT IS PRESENTED HERE AS A PLAN FEATURE, RATHER THAN A NORMAL AEROMODELLER FREE PLAN.

40 NORFOLK'S MODEL AIRFORCE
MEET TONY NELSON, THE ORGINATOR OF 'NORFOLK'S MODEL AIR FORCE', AND HIS TRULY INCREDIBLE COLLECTION OF CONTROL LINE SCALE MODELS.

44 CL SPEED NATIONALS 2025
DICK HART REPORTS ON THE BMFA CL SPEED NATIONALS, HOSTED BY BARTON MFC OVER THE FIRST WEEKEND OF SEPTEMBER.

50 CL VINTAGE COMBAT NATIONALS 2025
DENIS MURPHY REPORTS FROM BMFA BUCKMINSTER ON THE 2025 VINTAGE COMBAT NATIONALS, HELD ON FRIDAY 29TH AUGUST, IN ALMOST PERFECT WEATHER CONDITIONS.

58 SCALE MATTERS
THIS MONTH PETE FARDELL COVERS TWO MEETINGS AT A NEW VENUE FOR FF SCALE, MOD SCULTHORPE IN EAST ANGLIA, WITH THE FF NATIONALS REPORT COURTESY OF MIKE SMITH.

62 COTTAGE INDUSTRY DIRECTORY

64 NEXT MONTH
A PREVIEW OF WHAT'S COMING IN THE DECEMBER 2025 AEROMODELLER.

66 TAIL END CHARLIE
THE THOUGHTS OF CHRIS OTTEWELL.

Issue 1062 November 2025
(Issue 144 since relaunch)

How to contact us:
Tel: 01525 222573
Email: enquiries@doolittlemedia.com

Editorial:
Editor: Colin Sharman
Email: editor@aeromodeller.com
Publisher: Alan Harman
Administration: Russell Wray
Editorial Design: Alex Hall

Advertisement and circulation:
Aeromodeller, Doolittle Media, The Granary, Doolittle Lane, Totternhoe, Bedfordshire LU6 1QX, England

Tel: 01525 222573
E-mail: enquiries@doolittlemedia.com

Newstrade:
Select Publisher Services, 3 East Avenue, Bournemouth, BH3 7BW
Tel: 01202 586848 **E-mail:** tim@selectps.com

Subscriptions:
Aeromodeller, Doolittle Media, The Granary, Doolittle Lane, Totternhoe, Bedfordshire, LU6 1QX.
Tel: 01525 222573
Subscribe: 12 issues - UK £75, Europe £100, Worldwide £115

Website: www.doolittlemedia.com

AeroModeller is published monthly by Doolittle Media, Doolittle Mill, Doolittle Lane, Totternhoe, Bedfordshire, LU6 1QX. Entire Contents © 2025 Doolittle Media Reproduction in part or whole of any text, photograph or illustration without written permission from the publisher is strictly prohibited. While due care is taken to ensure the content of AeroModeller is accurate, the publishers and printers cannot accept liability for errors and omissions. Advertisements are accepted for publication in AeroModeller only upon Doolittle Media's standard terms of acceptance of advertising, copies of which are available from the advertising sales department of AeroModeller.

PLAN FEATURE
32

On the Cover:
Tony Nelson's incredible 'Norfolk Model Airforce'. This 10 ½ foot wingspan B36 Convair is just one of his amazing collection of 24 huge CL Scale models. The collection has been built up over 50+ years. The Convair is powered by 6 MDS 38 engines.

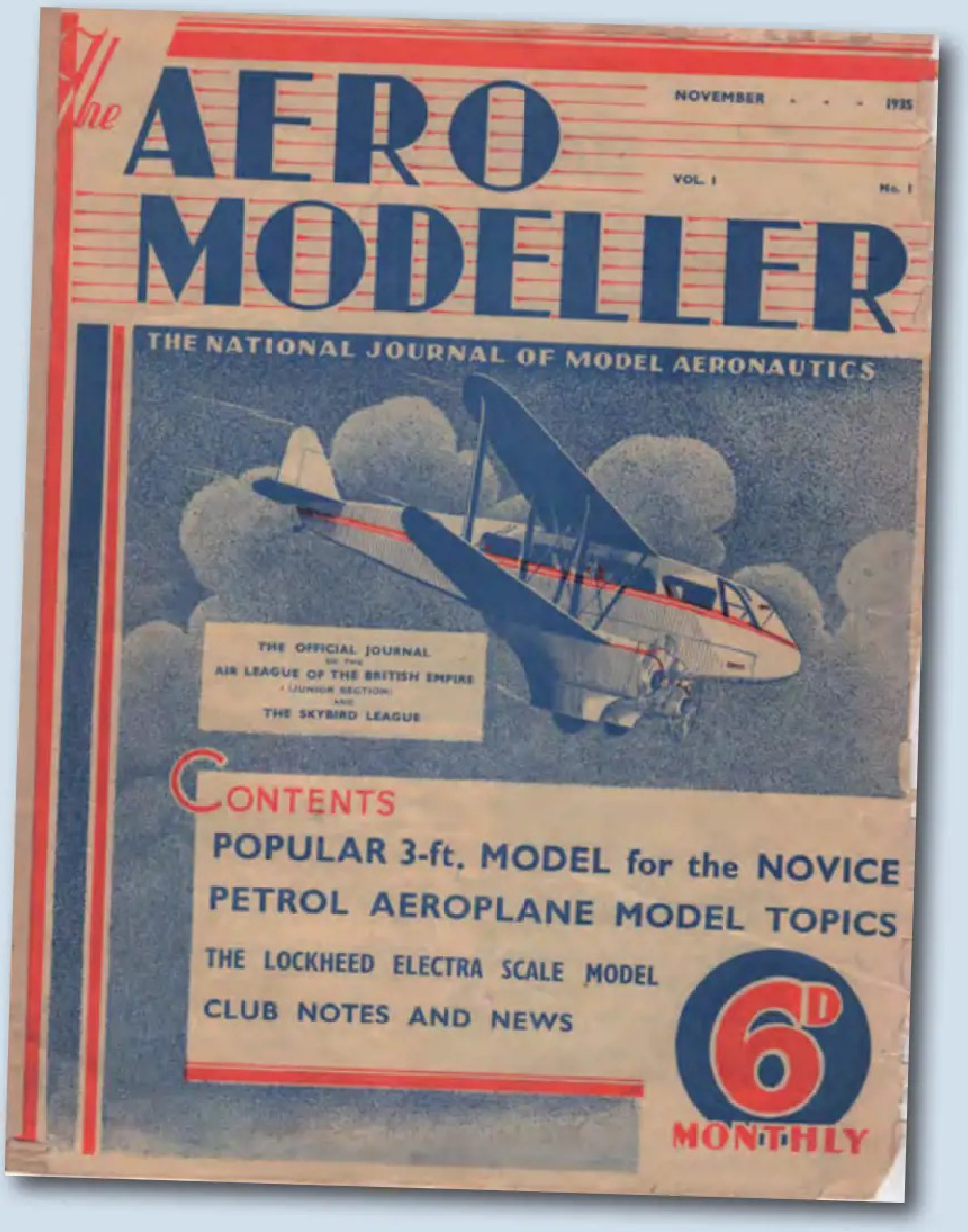
HEARD AT THE HANGAR DOORS

AEROMODELLER 90TH YEAR ANNIVERSARY FEATURE

2025 marks the 90th anniversary of AeroModeller magazine, the first issue was published in November 1935, and this is the 1062nd issue. This is a record that I believe is unmatched anywhere in the world of model aircraft publications.

To mark the 90th Anniversary, throughout 2025, we are including some reprinted AeroModeller covers and articles from each of the nine decades of AeroModeller.

This month is the actual 90th Anniversary of the first issue of AeroModeller appearing in November 1935. We are wrapping up the 90th Anniversary Celebration with an overall summary of many of the major milestones that have taken place in aeromodelling in the last ninety years, and the fact that AeroModeller has always been there to report on these historic events, and report on them as well. I am not sure that there is another model aircraft publication worldwide that can claim to have been there throughout the last 90 years of development of this great hobby. ■



The AERO MODELLER

NOVEMBER 1935

VOL. I No. 1

THE NATIONAL JOURNAL OF MODEL AERONAUTICS

THE OFFICIAL JOURNAL
OF THE
AIR LEAGUE OF THE BRITISH EMPIRE
(JUNIOR SECTION)
AND
THE SKYBIRD LEAGUE

CONTENTS

POPULAR 3-ft. MODEL for the NOVICE
PETROL AEROPLANE MODEL TOPICS
THE LOCKHEED ELECTRA SCALE MODEL
CLUB NOTES AND NEWS

6D MONTHLY

The front cover of the first issue of AeroModeller in November 1935.

At the memorable Peterborough MFC Paper Plane Nationals in March 2025, Bert was victorious in Paper Plane Duration.

PETERBOROUGH MFC INDOOR SEASON 2025/6

Once again the indoor season is upon us and Peterborough Model Flying Club have their usual Autumn/Winter sessions of indoor Free Flight at the Bushfield leisure centre in Peterborough. It is a great hall with an uninterrupted span across 8 Badminton courts (33metres x 33 metres) with a flat ceiling 7.5 meters high with no protruding steelwork. Basically the same flying area as the Indoor Scale Nats.

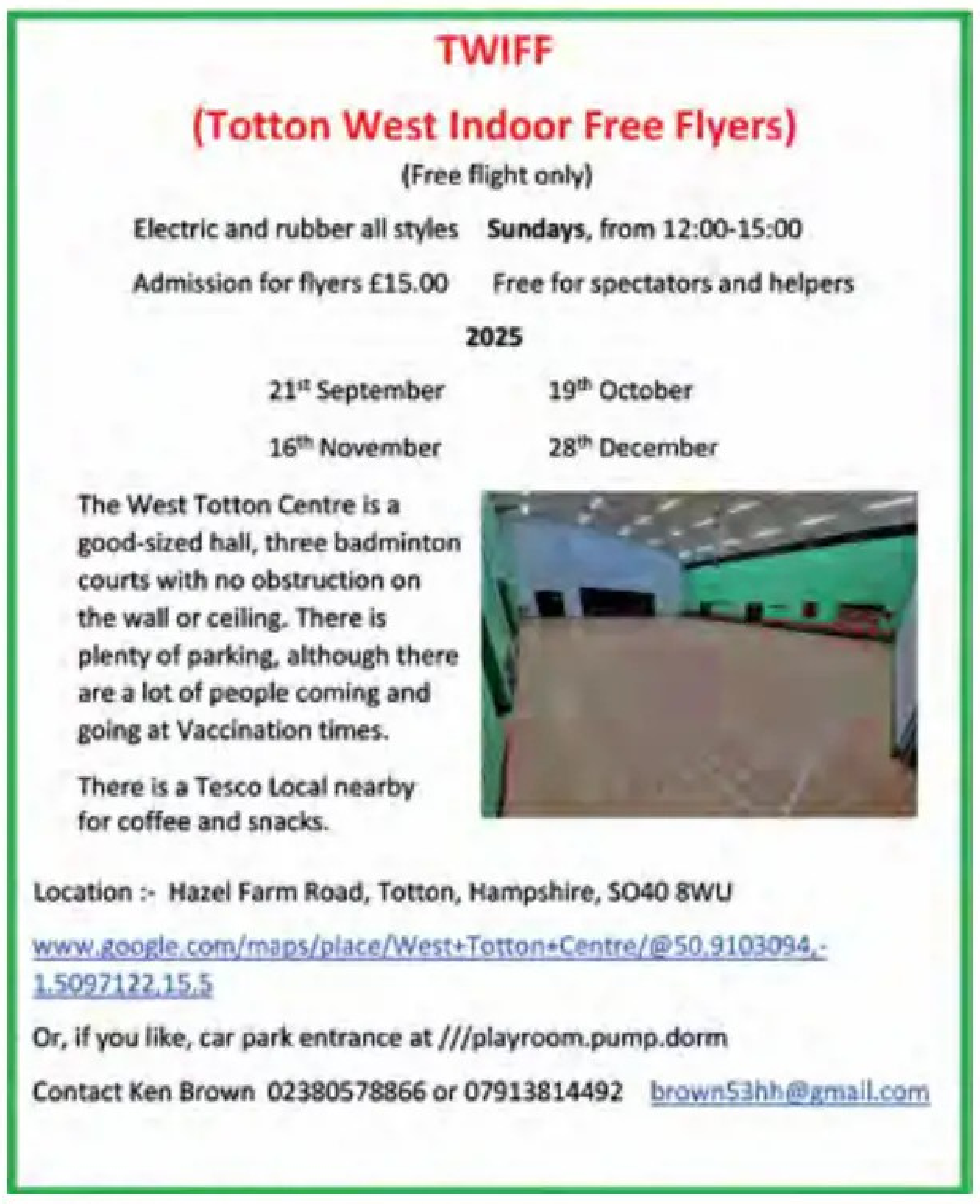
There are two sessions in 2025 from 10:00 to 14:00 on Sunday 19th October and Saturday 29th November. In the New year there are two sessions from 10:00 to 14:00 on Saturday 10th January and Sunday 1st March.

Then on Sunday 29th March there is a 6 hour session from 10:00 until 16:00 which should prove an invaluable trimming opportunity to all those entering in the Indoor Scale Nationals in late April. During the flights of any super scale models in this session, we will stop all other flying and give space to Nationals competitors so limiting the risk of damage to their models before the big day.

It is £15 for the 4 hour sessions and £20 for the 6 hour session. It is free for juniors and £3 for spectators.

The venue is The Bushfield Leisure Centre, 10 Bushfield, Peterborough, PE2 5RQ. Full location details are available on the BMFA Events site https://events.bmfa.uk/ and on PMFC's site at https://peterboroughmfc.org/events. Or you can contact either Brian Waterland on 01778 343722 or Andy Green on 07853 557085 ■

Richard Crossley's stunning Piper Pawnee seen finalising the intricate setup at Bushfield Hall before the 2025 Indoor Scale Nationals.



TWIFF

(Totton West Indoor Free Flyers)

(Free flight only)

Electric and rubber all styles **Sundays**, from 12:00-15:00

Admission for flyers £15.00 Free for spectators and helpers

2025

21st September 19th October

16th November 28th December

The West Totton Centre is a good-sized hall, three badminton courts with no obstruction on the wall or ceiling. There is plenty of parking, although there are a lot of people coming and going at Vaccination times.

There is a Tesco Local nearby for coffee and snacks.

Location :- Hazel Farm Road, Totton, Hampshire, SO40 8WU

www.google.com/maps/place/West+Totton+Centre/@50.9103094,-1.5097122,15.5

Or, if you like, car park entrance at ///playroom.pump.dorm

Contact Ken Brown 02380578866 or 07913814492 brown53hh@gmail.com

TWIFF brochure Autumn 25

UPDATE ON TWIFF INDOOR FLYING SEASON

Ken Brown has sent updated details for the TWIFF series of Indoor sessions at Totton near Southampton. Please also note the reminder of the flying etiquette at TWIFF sessions:

INDOOR ETIQUETTE

- Please keep the centre of the floor clear - for other fliers.
- Launch from the outside of your expected flight pattern, and leave the centre open for other flights.
- Walk round the hall rather than across.
- Retrieve from the nearest edge - even if a long walk is involved. You get to see everyone's hanger that way.
- Please walk slowly. Just the draft is enough to upset a flight. (This especially applies to children. Please try to calm their (understandable excitement.) If anyone treads on a labour of love it is upsetting, and it can, and does, happen by accident, but should not happen through thoughtlessness.
- Look out for other planes at all times and especially whilst launching - shooting down is not funny, and especially not when it is easily avoided.
- Most important of all. - Have FUN, and help the others have FUN too.

These events are also included in the Up & Coming Calendar on Page 9.

13TH INTERNATIONAL INDOOR FLY-IN, NIJMEGEN, HOLLAND

Jan Massinkhal, the organiser of the IIFI Indoor International meetings in the Netherlands, has sent the details of the 2025 event, to be held on November 15/16th at Arcus Sport centre, located just outside of Nijmegen in the town Wijchen. The characteristics of the hall are about 32 by 48 meters; height is nearly 12 meters. The ceiling is fairly smooth.

Address of the hall is: Arcus sportcentrum, Campuslaan 14, 6602 HX Wijchen.

This is a different venue to the one that has been used in recent years, due to redevelopment of that venue. However the prestige that IIFI has built over the years will guarantee a very high quality international entry.

The full details on the event, and the entry requirements, as well as the location of the hall, are all included in the official event post below:

13TH INTERNATIONAL 2025
INDOOR FLY-IN
Nijmegen, Netherlands

NLC

13TH INTERNATIONAL INDOOR FLY-IN 15 AND 16 NOVEMBER, 2025 JAN MASSINKHAL

We would like to invite you for the International Indoor Fly-In! Already going for its 13th edition. On the 15th and 16th of November, Nijmegen will once again welcome indoor flyers from the international flying community!

THE PRELIMINARY SCHEDULE FOR THE EVENT:

Saturday 15 November 8.30-19.00
Sunday 16 November 8.30-18.00
A detailed schedule will be provided middle October to the flyers that have entered.

LOCATION

The hall we will use is the Arcus Sport centre, located just outside of Nijmegen in the town Wijchen. The characteristics of the hall are about 32 by 48 meters; height is nearly 12 meters. The ceiling is fairly smooth. Address of the hall is: Arcus sportcentrum, Campuslaan 14, 6602 HX Wijchen.

CONTEST

We will be flying contests in several classes. The classes are: F1D, F1M, F1M small (Juniors), F1L, F1N (Indoor Glider), Sainte, F4D (Open scale rubber), F4E (Open scale electric/CO2), F4F (Peanut), Pistachio, Kit scale, Glider scale and Profile scale.

Depending on the amount of entries and the fact that we have a different hall and one day less we will probably not be flying the Glider Scale class. If we find time to fit it in we will announce this.

Electric and CO2 will be split into 2 different classes but flown under the name F4E.

The judging rules used for the scale classes will be those written in the IIFI rulebook version 2024. These are based on older BMFA rules and those used in the past at Interscale. The duration rules will follow the standard FAI rules. Please check our social media for more details on the rules. We can also send them via email to you. Flying other types of models is of course allowed as well; in the definitive schedule there will be time allocated for this. There will also be plenty of time available for trimming and fun flying.

The F1M small class is used in the Netherlands for juniors. Rules are similar to the standard F1M rules, with the only deviation being a limit of the wing chord to 160 mm.

Please note that all duration classes will be flown on normal weight, full motors. This is the same as previous years. The minimum weight for Sainte in the Netherlands is 3 grams.

NUMBER OF MODELS

Similar to last year, we are using 1 model per class per flyer. With the exception of F4E were you can still enter 1 model in CO2 and 1 model in Electric. A difference for example with the UK Nationals, is that you can bring a spare model for each class. The concept is when you crash the model enlisted you can put in your reserve model. This will mean that all the earlier made flights will be taken out of the results and the remaining flights will be made with your reserve model. This can be done for all classes but only after deliberating with judges and CD. The choice you give us before the start of that round or the competition will be the final choice. If the models does not fly of you are having difficulty getting it to fly, this concept cannot be used to change models. In this way we hope to have less work with judging and more time to fly and also trim fly in between. More of this concept will be repeated in all the following bulletins.

DUTCH CHAMPIONSHIPS

For the Dutch flyers we will also organize the Dutch Championship in the classes F1D, F1M, F1N and F4F. These classes will be flown under the same rules as used during the competition. More

information about timing, rules and local rules can be found in appendix I. To become Dutch Champion you need to be a member of the KNVVL, a resident of the Netherlands and must have a (FAI) license given by the KNVVL, the flyer needs to present this to the organisation. We need at least 5 Dutch flyers per class. *Note: International competitors don't need to have a FAI license to compete at the regular contest.*

PROXY FLYING

It is possible in the Peanut and Pistachio class to send in your model for proxy flying. The entry fee for this is €15,- Please contact us for more details about this and how to arrange it. Naturally we will use only experienced flyers to fly your models. Alternatively you can agree with someone in advance to fly your models.

PRIZES

In all classes the best three flyers will receive a prize. For F4E the best three flyers in Electric will receive a price and also the best three flyers in CO2 will receive a prize.

ACCOMMODATION

Together with this invitation you'll find a list of Accommodations close to the hall. Besides this list

there are more options, check www.vvvnijmegen.nl under “accommodation” for a list with more options. The site is available in English and German. Should you have any difficulty in arranging a place to sleep, please contact us at internationalindoorflyin@gmail.com, or at the address below.

INSCRIPTION

The entry form is in an online form found at the following link: https://forms.gle/XVfiFvv6bRyhopro6 Having trouble filling in the form just contact us. The entry fee is €75,00 for seniors. For junior flyers please contact us for the fees. This includes:

- Entry in unlimited amount of classes for the contests;
- Lunch package on both days

EXTRA INFORMATION

It is not possible for us to hold our banquet as normal so please make sure you have a dinner reservation ready for the Saturday evening.

Different from last year is that we cannot provide coffee or tea, this can be bought in the cafeteria of the hall during the days.

For people accompanying the flyer that are also interested in participating in the lunch (both days) the fee is €10 .

The bank account details of the NLC are the following:

IBAN: NL41INGB0003366443
BIC: INGBNL2A
Name: Nijmeegse Luchtvaart Club Cost: Shared Cost (SHA)

See you 15 and 16 November in Nijmegen! Kind regards, Bernard Bruins Roel Lucassen

Nijmeegse Luchtvaart Club
Post address:
Piet Heinstraat 3 2676VT Maasdijk
Telephone: (0031)(0)648938502
E-mail: internationalindoorflyin@gmail.com

MORE INFORMATION

In this appendix some important information about the competition can be found in a short summary Timetable:

Going back to one model per flyer and taking more time on the Friday we hope that flyers can get more time to socialize and look at the other models. We will try to get more room in the timetable for trim flying. This all depends on how many of you are coming this year. So the sooner we now the faster we can make a concept timetable.

1 MODEL PER FLYER PER CLASS:

Here you will find some examples about the reserve model concept. If there are any questions about this please ask them.

Example 1: You entered in F4D. Second round the model crashes and has damage (wing came off). You are given 2 choices. Either you repair the model for the last 2 rounds the next day or you go to CD and aks to put in the reserve model. When the reserve model is put on the list the first 2 rounds will become a 0. The last 2 rounds will count for that model together with the static score for that model. If you have a real high score for the first round you can also choose to put a 0 for the 3rd and 4th round so it will be added to the results.

Example 2: You entered in F4F. You already made 3 flights and the model crashes. You are given 2 choices. Either you repair the model for the remaining flights or you go to CD and aks to put in the reserve model. This means the first 3 flights will be a 0 and remaining 6 flights will count for that model together with the static score. If a model won’t fly because of trimming issues the concept does not apply.

TIMEKEEPING:

Timekeeping wil be done in accordance with the FAI rules.
For F1D, F1L, F1M, Sainte Formula and Profile Scale all flight times will be rounded to the nearest second.
.5 seconds will be rounded up.
For F1N all times are rounded to the nearest 1/10th of a second.
For F4F and pistachio all the times will be rounded down to the nearest second.
Local rule: We will use one timekeeper. For official national and international records the flyer is responsible for a second timekeeper.

DUTCH CHAMPIONSHIPS:

During the IIFI, the flyers that are residents of The Netherlands, get a chance to become Dutch Champion in four classes F1D, F1M, F1N and F4F. Conditions to compete are: Flyer needs to be a member of the KNVVL.

Flyer needs to present a (FAI) license given by the KNVVL for the year 2025. Flyer needs to be a resident of the Netherlands.

We need at least 5 dutch flyers per class.

Local rule: *There will be no difference between Junior and Senior flyers for the Dutch Championships.*

INTERNATIONAL COMPETITORS DON’T NEED A FAI LINCENSE TO COMPETE AT THE IIFI 2025

LETTERS TO THE EDITOR

From Stuart Darmon, on the Lifting Tailplanes debate:

Dear Colin,

Peter Martin is, as usual, correct in describing why tailplanes (in most conventional trim set-ups) generate positive lift. This is in fact proven regularly in the real world by the familiar method of using tail tilt to adjust glide turn. Raising the right-hand tip of the tailplane induces a turn to the right- in other words, displaces some of the force generated by the tail to the left. Ergo that force is positive (i.e. upwards). QED.

Regards,
Stuart Darmon.

Editor: here we have to finish the Lifting Tailplanes debate, which arose from an article by Trevor Waters in October 2024 AeroModeller.
As reported last month, Trevor Waters sadly passed away in August of this year, and so he is unable to respond to any further reader’s letters.

DAVID T. BALCH 8TH MAY 1939 – 4TH AUGUST 2025

Obituary by Martin Radcliffe and Andrew Longhurst, with help from Mark Balch.

Dave was a leader, both charming and educated with great drive. Whether it be in his Aeromodelling pastime or in his professional career as an aeronautical engineer he rose to the very top. Those who knew him never forgot him. Andrew Longhurst recalls him talking animatedly in the mid '60's about the small chord aerodynamics of CL models which he was researching with German Aerodynamicist Rolf Miebach (designer of the Stuppi speed job). This became the bedrock of his career in helicopters which he pursued working with the greatest vertical lift companies in the world. He returned to the UK in May 2019 for a great reunion with his aeromodelling clubmates from Hayes and Feltham clubs.

Dave grew up next to Heathrow Airport at 364 Cranford Lane where records show he lived with his parents and two sisters until 1968. This close proximity to aviation sparked a lifelong passion. Across the Road was Cranford Park and he became captivated by the Free Flight models being flown there. As a teenager Dave excelled at model aircraft, flying both free flight and then control line models.

Dave was teamed up with Mike Smith from High Wycombe as pilot with Dave as pitman. They were using a Mk2 Rivers Silver Streak 2.5cc engine. Dave worked hand in glove with Rivers on the development of this engine and with the larger 3.5cc Silver Arrow that Dave used to great effect in Control Line Combat events. The Dave Balch/Mike Smith team won all but 2 of the domestic Team Race competitions in 1960, including the UK National Championships, and broke the British National Record for FAI TR.

At the 1961 Criterium of Aces in Belgium (effectively European Championships) he stepped in as pilot for Ken Long's entry when Ken's regular pilot had to fly back home for an emergency.

At the 1965 Criterium he was paired with Alan Dell.

In 1967 He flew at the Criterium with Richard King as pitman.

Dave had too many successes in Team Race and Combat to recount here. He even came 4th out of a large entry in a Free Flight glider competition on Chobham Common with a glider built from a Keil Kraft Caprice kit.

Dave's last competition success in Britain before leaving for the States was reported in the June 1968 Aeromodeller: "The February 40 Rat Race at Hullavington had its competitive excitements. Dave Rudd seemed to have a winning lead with his ED piped KB40 when his rear end, or rather that of his model, fell off. And thereby hangs a tale, for it enabled Dave Balch to achieve a storming farewell victory in this, his last comp, before leaving for the States."

After earning his BSc in Aerospace Engineering from Imperial College University of London, Dave's professional journey began at Handley Page near Radlett, Hertfordshire and later with BAC at Brooklands, Weybridge, Surrey. At the same time his Feltham clubmate Martin Radcliffe was working there in IT and occasionally they'd get together to talk about model airplanes.

In 1966, Dave had met the love of his life, Doreen Findlay, at the Richmond Dance Hall. So, in 1969 Dave travelled back to England to marry her at All Saints Church, Esher, Surrey. Many Feltham Cub members were in attendance. She then joined him in Connecticut.

His reason for moving to the United States was to join Sikorsky Helicopters. Although new to helicopters, he quickly became a respected Design and Flight Performance Engineer. Meanwhile he set up F&D Model Supplies, which he used to buy model aircraft engines etc. at wholesale price in US and send over to us in UK. Mainly these were Super Tigre and K&B 40s which Feltham Club used to dominate 40 Rat Race by sheer weight of numbers e.g. at the 1969 Nationals the 8 semi-finalists (two 4-up semis) were all Feltham entries, so it was decided to have a 3rd Semi, this brought in 2 non-Feltham teams... and another 2 Feltham, so we had 10 entries in the semis, and all four finalists were from Feltham.

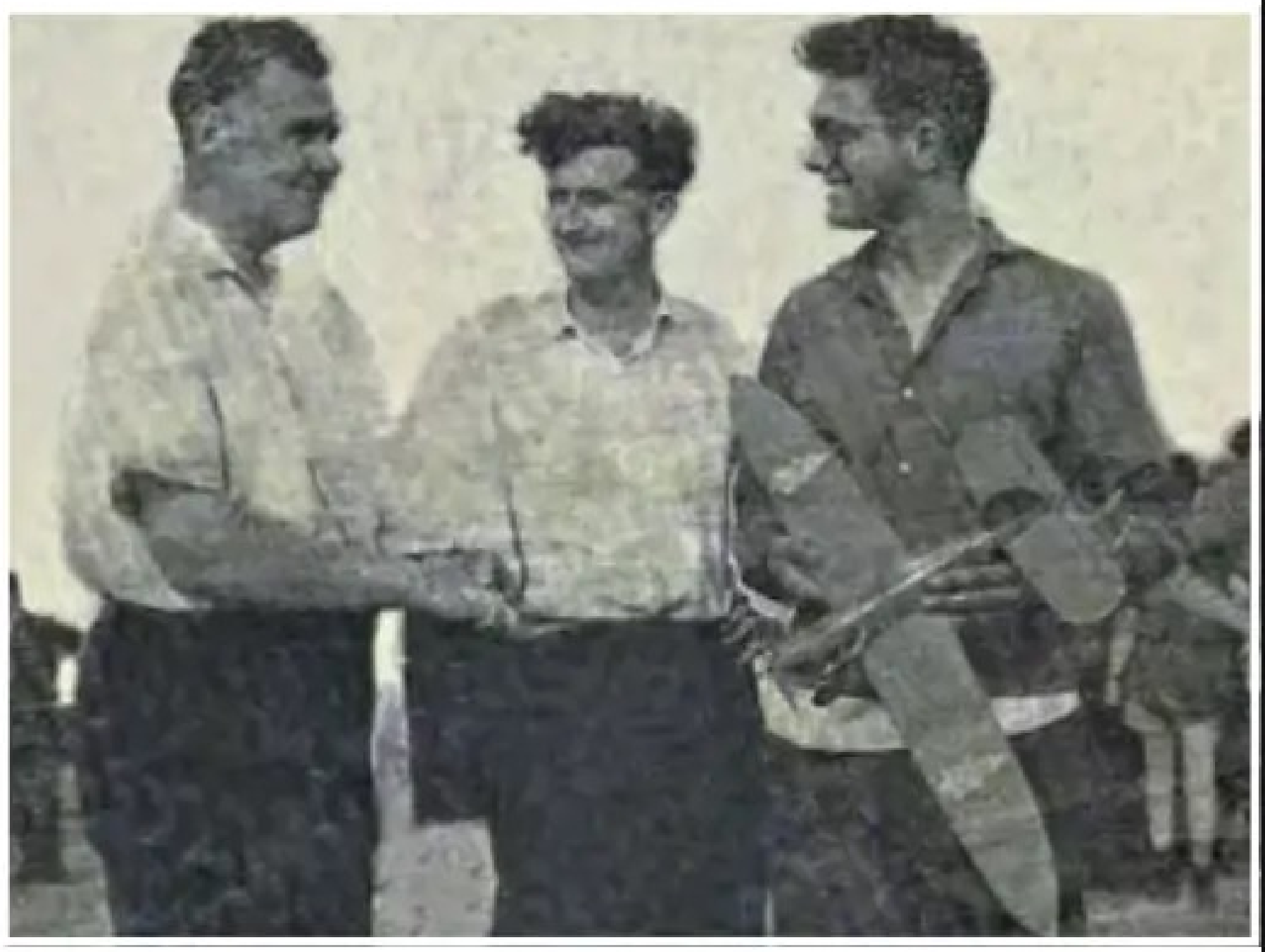
By 1978 he had earned a Master's Degree in Mechanical Engineering from the University of Bridgeport. A key innovator, Dave obtained a patent for the airfoil used on the iconic Blackhawk, S 76, and CH53E helicopter rotor blades in addition to contributing to numerous other design patents. Dave's helicopter blade patent can be found here: - https://uspto.report/company/Balch-David-T

In 1985, he moved with his family to Arizona to work for Hughes Helicopters, which eventually became Boeing. He was appointed Manager of Flight Performance and a Technology Lead for the Apache Integrated Product Team where he played a crucial role in international sales of the Apache Longbow. Dave retired from Boeing at age 75, capping a remarkable 54-year career.

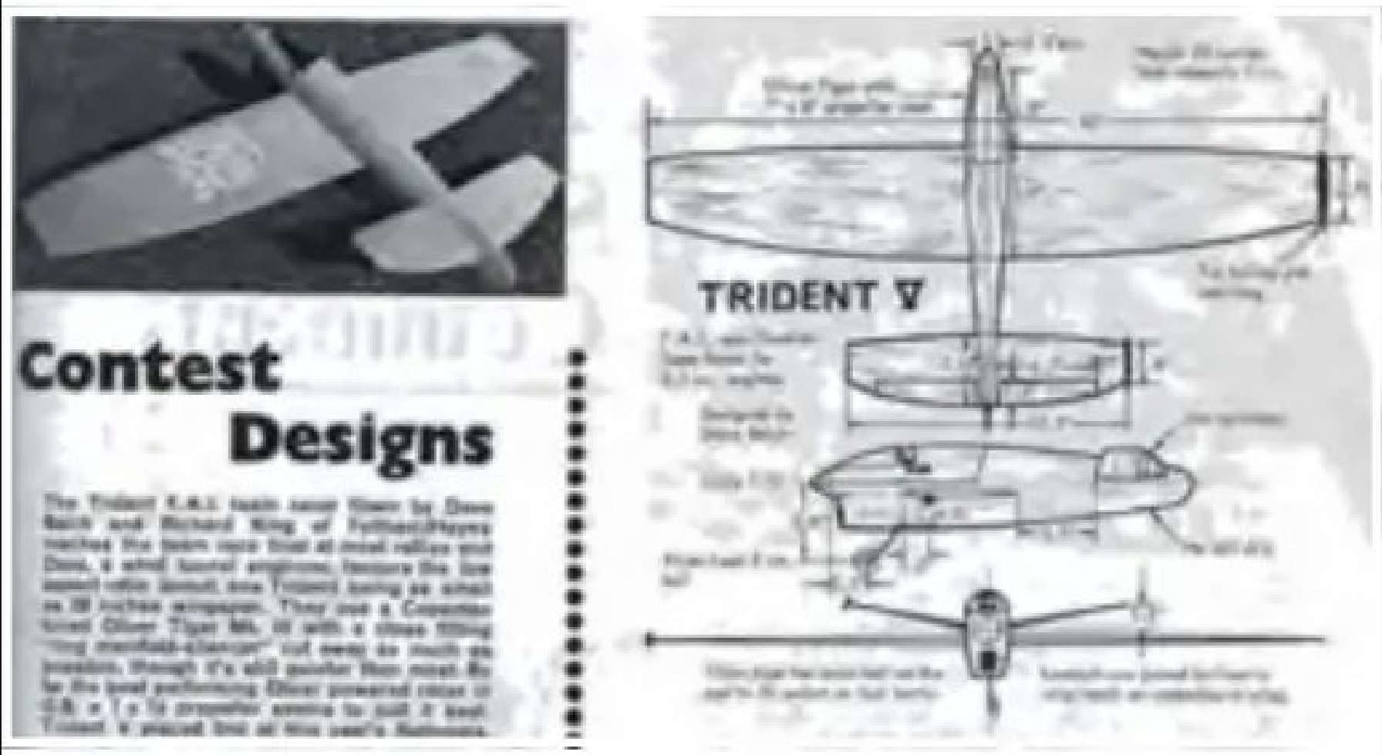
Around 2000, he returned to his roots, joining the Arizona Model Aviators to fly RC models. He was an active and dedicated member, serving as Club Secretary and on the board for six years. He was also a judge for the Annual Scale Master Qualifiers.

Dave's battle with Alzheimer's may have affected his memory, but it never diminished his love for aircraft. He will be deeply missed by his wife, Doreen, their two children, three grandchildren, and all his friends and colleagues. ■

4th June 1967. Dave receiving trophies at the Elliott Automation Competition from Mr. S. Ellis, Divisional Manager and Chief Designer for Elliotts. Dave was 1st in FAI Team Race and 2nd in 40 Rat Race.



He represented the UK four times in the Control Line World and European Championships and was a member of the winning UK FAI Team Race team at the 1960 World Control Line Championships in Budapest, Hungary.


Contest
Designs
TRIDENT V

This is one of Dave's FAI Team Race designs, using his aerodynamics knowledge, that was published in Aeromodeller and is the one he flew in 1967 at the Criterium. Note the sleek smooth fuselage. Many people built and flew this design.

In 1985, he moved with his family to Arizona to work for Hughes Helicopters, which eventually became Boeing.

13th May 2019. Feltham and District Model Aircraft Club reunion at the Adelaide Pub in Teddington. Dave and Doreen extreme left, Martin Radcliffe 3rd from right, Andrew Longhurst extreme right. It was the year of their 50th wedding anniversary

UP & COMING

"WHERE TO SEE MODEL AIRCRAFT FLYING"

(quote from 1937 AeroModeller calendar)

Please note that the events listed are compiled weeks in advance of publication, so please check in case of change - specifically MOD venues such as Salisbury Plain can be cancelled at short notice. For inclusion of your event, please send an email with date and details in a format similar to those shown below to editor@aeromodeller.com

October

■ 25th or 26th October
BMFA FF Midland Gala, RAF North Luffenham, Vintage/Classic, Mini, Micro, HLG/CLG.
Contact Phil Ball Phil.ball@ntlworld.com

■ 26th October
BMFA SW Area Indoor Meeting, Tregorrick Leisure Centre, St Austell, PL26 7AG. 12.00 – 16.00, FF and small RC. Contact Ron Marking at ron.marking@btinternet.com

November

■ 2nd November
Bangor Indoor Flying 15.00-18.00, Brailsford Centre, Ffriddoedd Road, Bangor, LL57 2EH, United Kingdom.
Contact Martin Pike at martin.pike.xray@gmail.com, 07831-141418.
The centre is on a minor road, northeast of Ffriddoedd Road. It ascends slightly, turns left and then there is a left turning through a barrier to a straight road headed southwest, along which you can park. See Google maps or similar. There is usually ample parking close to the centre. There is a coffee/drinks machine of middling quality. The nearest shop and cafe is in Morrisons at the junction with Holyhead Road.
My interest is Free Flight scale and fun/duration. I always bring some models for people to try. I'm not concerned if they require some repairs afterwards.
Lightly wing-loaded radio models can be flown, with consideration of what FF planes are flying - some are very delicate. It helps everyone if the centre of the hall is kept clear for flying as much as possible. Children are welcome but must be accompanied.

■ 2nd November
OFMAC Indoor Flying, Abbey Sports Centre, Furlong Green,
Berinsfield, OX10 7NR. 09:00 to 15:00.
Indoor FF, FunFly and Scale.Ian Melville OFMAC@redkite.aero

■ 8th November
Tonbridge Gassers and Rubber Fanciers, Indoor Flying at Kings Sport Centre 601 Maidstone Road, Rochester ME1 3QJ - 6.30 pm until 10.00 pm – Freeflight, Lightweight RC and 3D RC timed flying sessions throughout the evening. Contact Steve on 0208 942 5000 or Eric on 07763 398 416.

■ 16th November
TWIFF (Totton West Indoor Free Flyers), Free Flight only, Electric and Rubber all styles. The hall is the size of 3 Badminton Courts, with no obstruction on the walls or ceiling. Plenty of Parking, Tesco Local nearby for coffee and snacks. Location www.google.com/maps/place/West+Totton+Centre/@50.9103094,-1.5097122,15.5 , or car park entrance at ///playroom.pump.dorm. Contact Ken Brown 02380578866 or 07913814492, brown53hh@gmail.com.

■ 23rd November
BMFA SW Area Indoor Meeting, Tregorrick Leisure Centre, St Austell, PL26 7AG. 12.00 – 16.00, FF and small RC. Contact Ron Marking at ron.marking@btinternet.com.

■ 29th November
Peterborough MFC Indoor Meeting, 10.00am – 2pm, Location: Bushfield Leisure Centre, Peterborough PE2 5RQ. Large Hall, Low Key Comps, Slow Light R.C. welcome (no Shockies / Helis), It is £15 for the 4 hour sessions. It is free for juniors and £3 for spectators. Contact: Brian Waterland 01778 343722

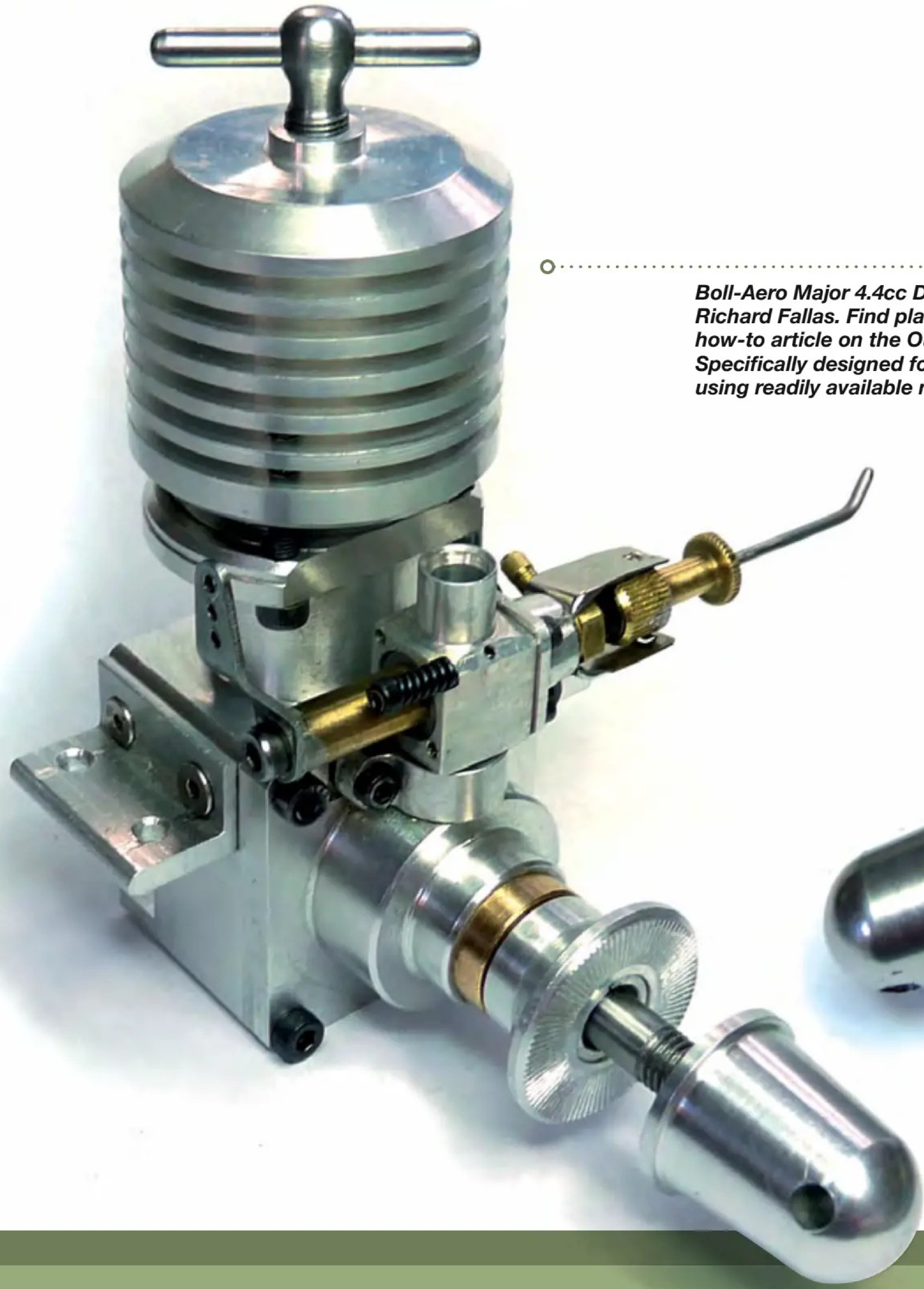
December

■ 6th or 7th December
Birmingham Coupe Day - The event will be in its traditional format; 10.00 start, 3 flights for pre-1970 (incorporating Vintage) Coupe not in rounds and F1G in 5 rounds, the first two to be completed by 12.00. Contest finish at 14.45 with Flyoffs as necessary. As in previous years competitors will be able to double up Pre1970 flights into the F1G class. The Vintage Plate is awarded to the first Vintage (pre'58) Coupe and the Aeromodeller Trophy for the top placed F1G. Prizes for the first 3 places in F1G, Vintage and pre-1970 classes. The organisers will determine which of the two days of that weekend are likely to have best weather and will email potential attendees on the evening of Thursday 4th December to confirm the chosen day. Will all potential fliers please email gavin.manion84@gmail.com ahead of time so that they are included in that confirmation email. Single registrations on behalf of a group of fliers would be very welcome. For further information contact: - Gavin Manion at gavin.manion84@gmail.com tel 01543 422509 Or Stuart Darmon at stuartdarmonf1a@yahoo.com tel 01858 882057.

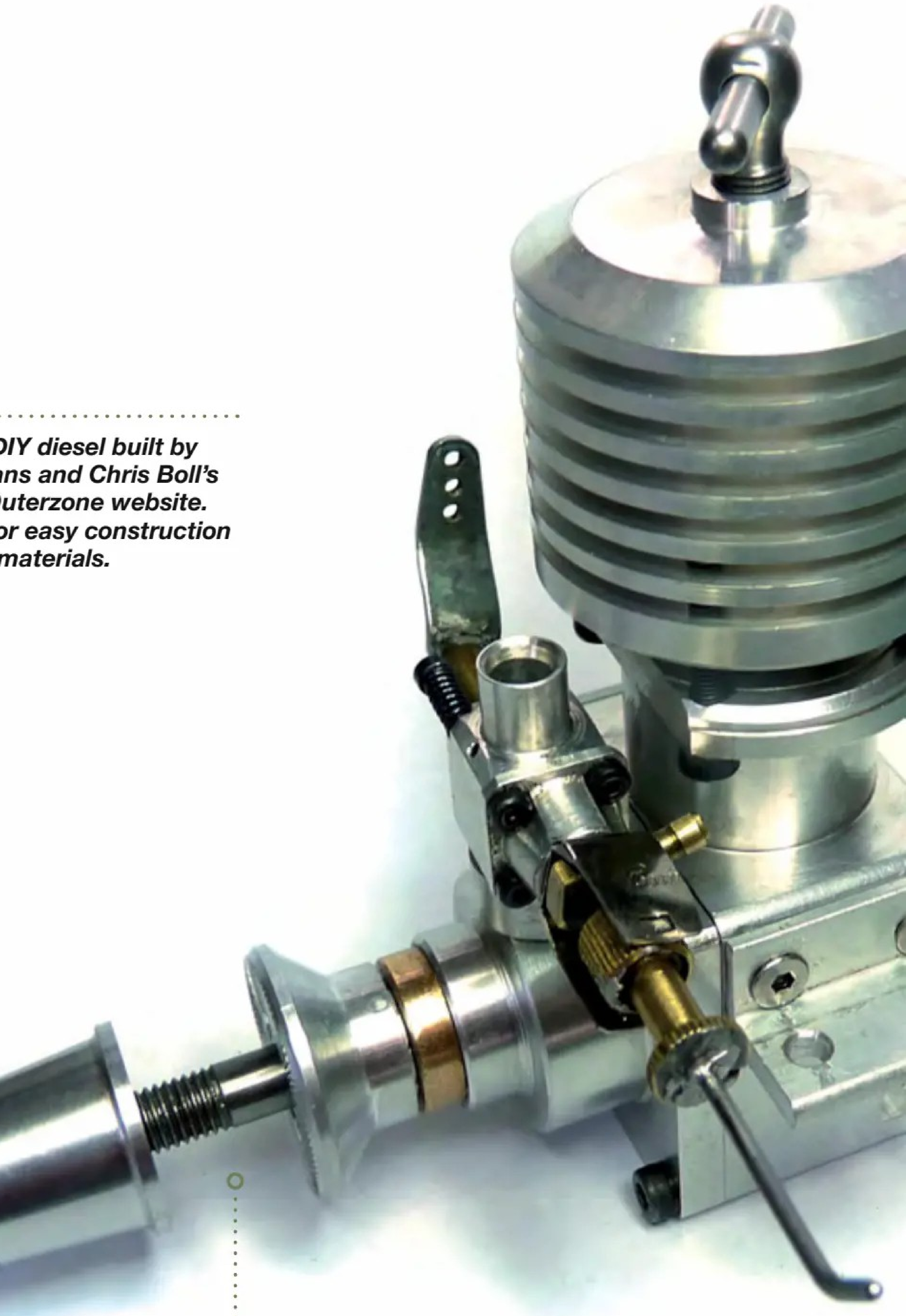
■ 7th December
Bangor Indoor Flying 15.00-18.00, Brailsford Centre, Ffriddoedd Road, Bangor, LL57 2EH, United Kingdom.
Contact Martin Pike at martin.pike.xray@gmail.com, 07831-141418.
The centre is on a minor road, northeast of Ffriddoedd Road. It ascends slightly, turns left and then there is a left turning through a barrier to a straight road headed southwest, along which you can park. See Google maps or similar. There is usually ample parking close to the centre. There is a coffee/drinks machine of middling quality. The nearest shop and cafe is in Morrisons at the junction with Holyhead Road.
My interest is Free Flight scale and fun/duration. I always bring some models for people to try. I'm not concerned if they require some repairs afterwards.
Lightly wing-loaded radio models can be flown, with consideration of what FF planes are flying - some are very delicate. It helps everyone if the centre of the hall is kept clear for flying as much as possible. Children are welcome but must be accompanied.

■ 7th December
OFMAC Indoor Flying, Abbey Sports Centre, Furlong Green,
Berinsfield, OX10 7NR. 09:00 to 15:00.
Indoor FF, FunFly and Scale.Ian Melville OFMAC@redkite.aero

■ 14th December
BMFA SW Area Indoor Meeting, Tregorrick Leisure Centre, St Austell, PL26 7AG. 12.00 – 16.00, FF and small RC. Contact Ron Marking at ron.marking@btinternet.com.
28th December TWIFF (Totton West Indoor Free Flyers), Free Flight only, Electric and Rubber all styles. The hall is the size of 3 Badminton Courts, with no obstruction on the walls or ceiling. Plenty of Parking, Tesco Local nearby for coffee and snacks. Location www.google.com/maps/place/West+Totton+Centre/@50.9103094,-1.5097122,15.5 , or car park entrance at ///playroom.pump.dorm. Contact Ken Brown 02380578866 or 07913814492, brown53hh@gmail.com.



Boll-Aero Major 4.4cc DIY diesel built by Richard Fallas. Find plans and Chris Boll's how-to article on the Outerzone website. Specifically designed for easy construction using readily available materials.



Richard's RC throttle is a refinement of the original design. See if you can spot all his tweaks against Chris Boll's original design.

Boll-Aero Major 4.4 die

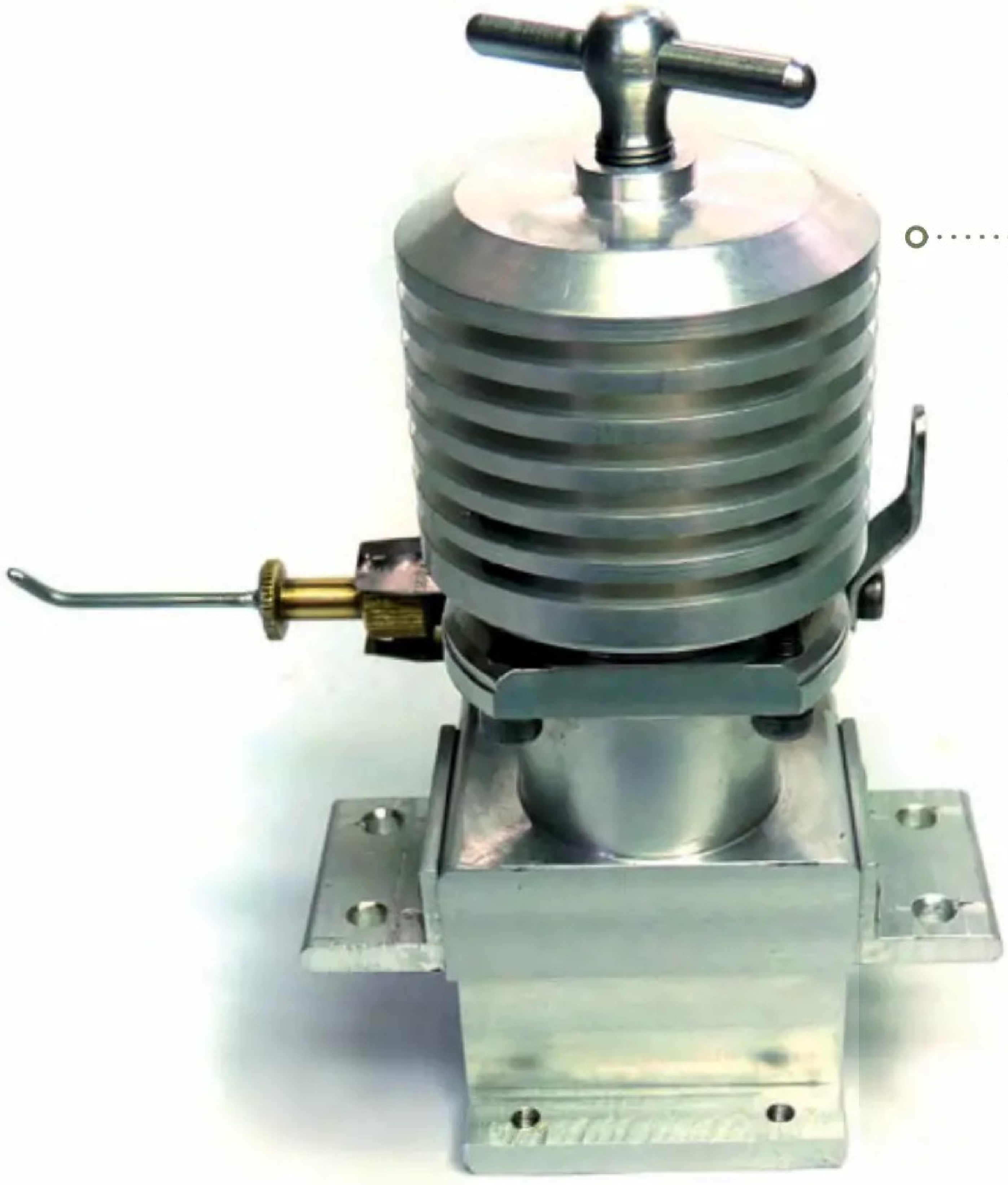
MARIS DISLERS PUTS THE DIY BOLL-AERO 4.4 THROUGH ITS PACES.

The wonder and chuff when one's own-built model engine runs for the first time is quite special. Given the personal commitment to bring that about. Magnified, when it produces useable power and is put to work in the air. Chris Boll offered his simple 1.8cc diesel engine design for home machinists in 2009. Plans can be downloaded here https://modelenginenews.org/bollaero/index.html or from the Outerzone website. Videos on You Tube attest to its popularity and his other DIY engine designs. Even as some stoically tolerate inept operators. When Richard Fallas offered his own-made Boll-Aero Major 4.4cc diesel, we could hardly wait for the parcel to arrive from New Zealand.

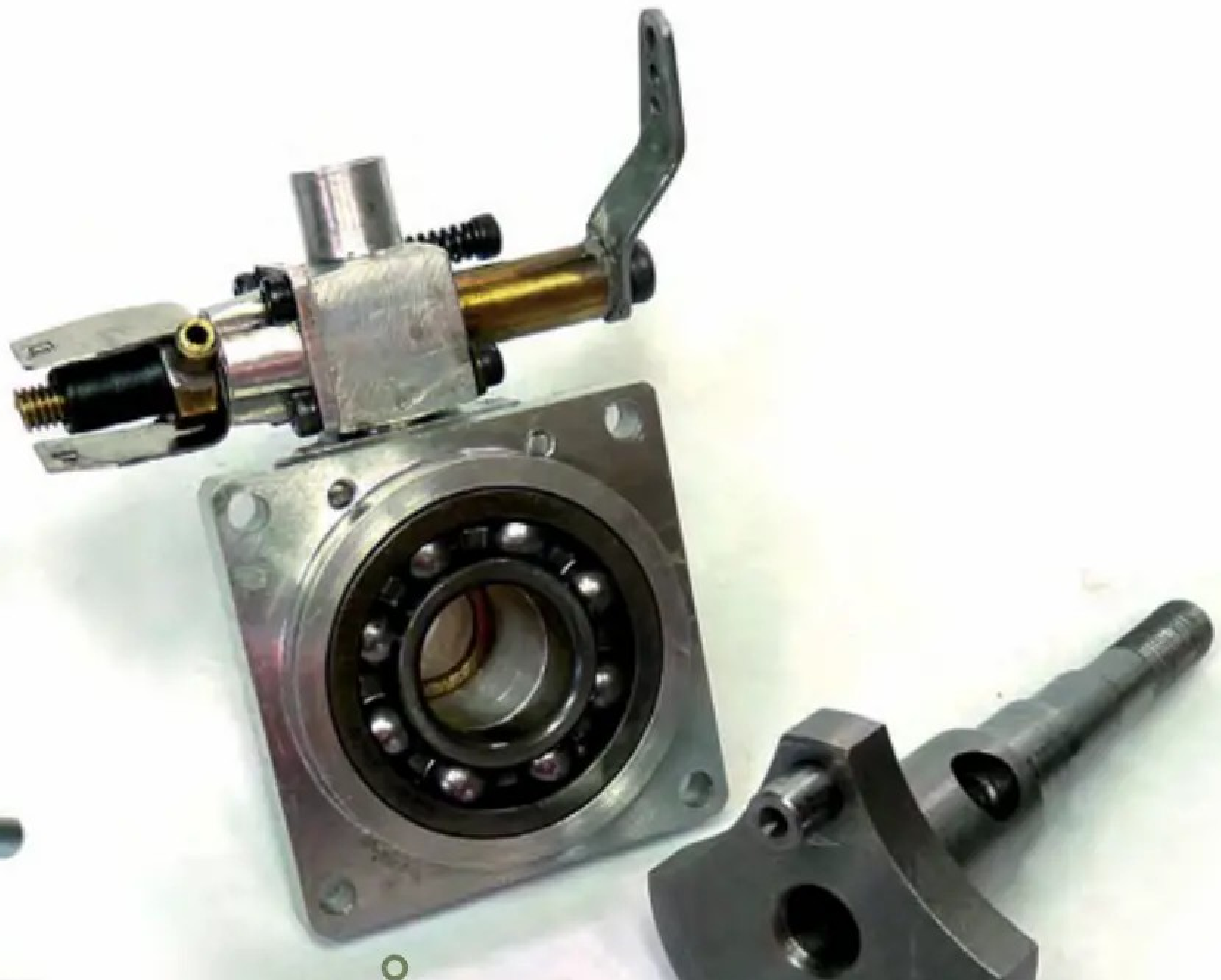
The Major follows Chris' design ethos; firmly grounded on thought-out design. Durability and adequate performance, but more importantly, suggesting to many perusing the plans that they could successfully make one with a basic metal working lathe and some milling facility. No castings, readily available materials, no complex machining operations (e.g. screw cutting). Pulchritude considerations come last.

Unlike the smaller engine, Major has rotary crankshaft induction, a rear ball race supporting crankshaft loads and doubles up on cylinder porting. Long stroke to bore ratio is retained and Chris rightly pointed out in his Aviation Modeller International construction article, an engine of this size can tolerate imprecise fits and finish. Thankfully, bore to crankshaft axis squareness is easily achievable, leaving only the critical piston fit in cylinder and lesser tolerances to get reasonably OK. Richard has done a fine job of his example. Incorporating a longer crankshaft with bronze front bearing to suit, and a throttle carburettor. Along with beam mounting lugs as an alternative to its original base-plate design.

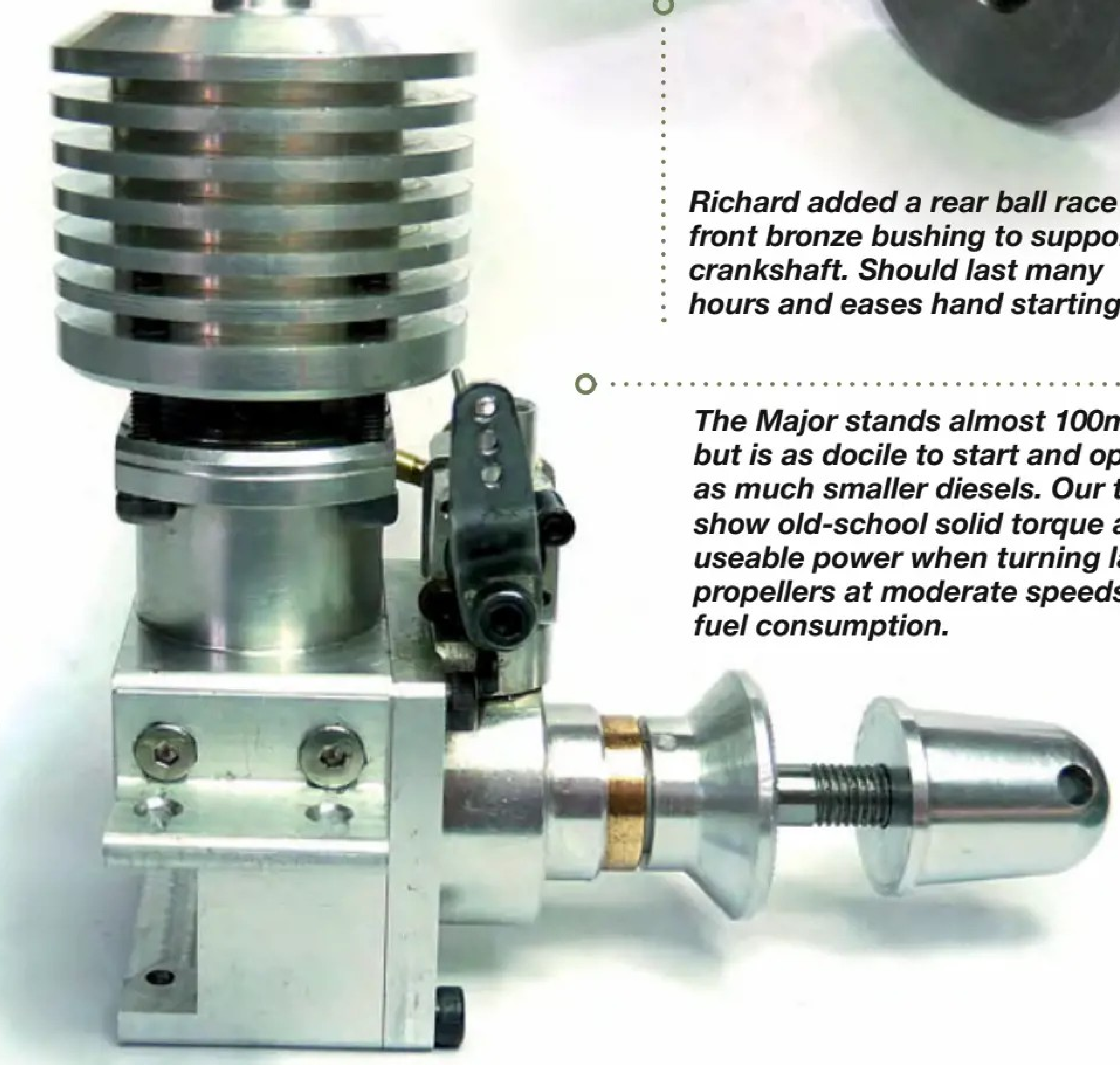
Richard pointed out that he's used David Owen's contra piston method with great results. Tapering down a touch



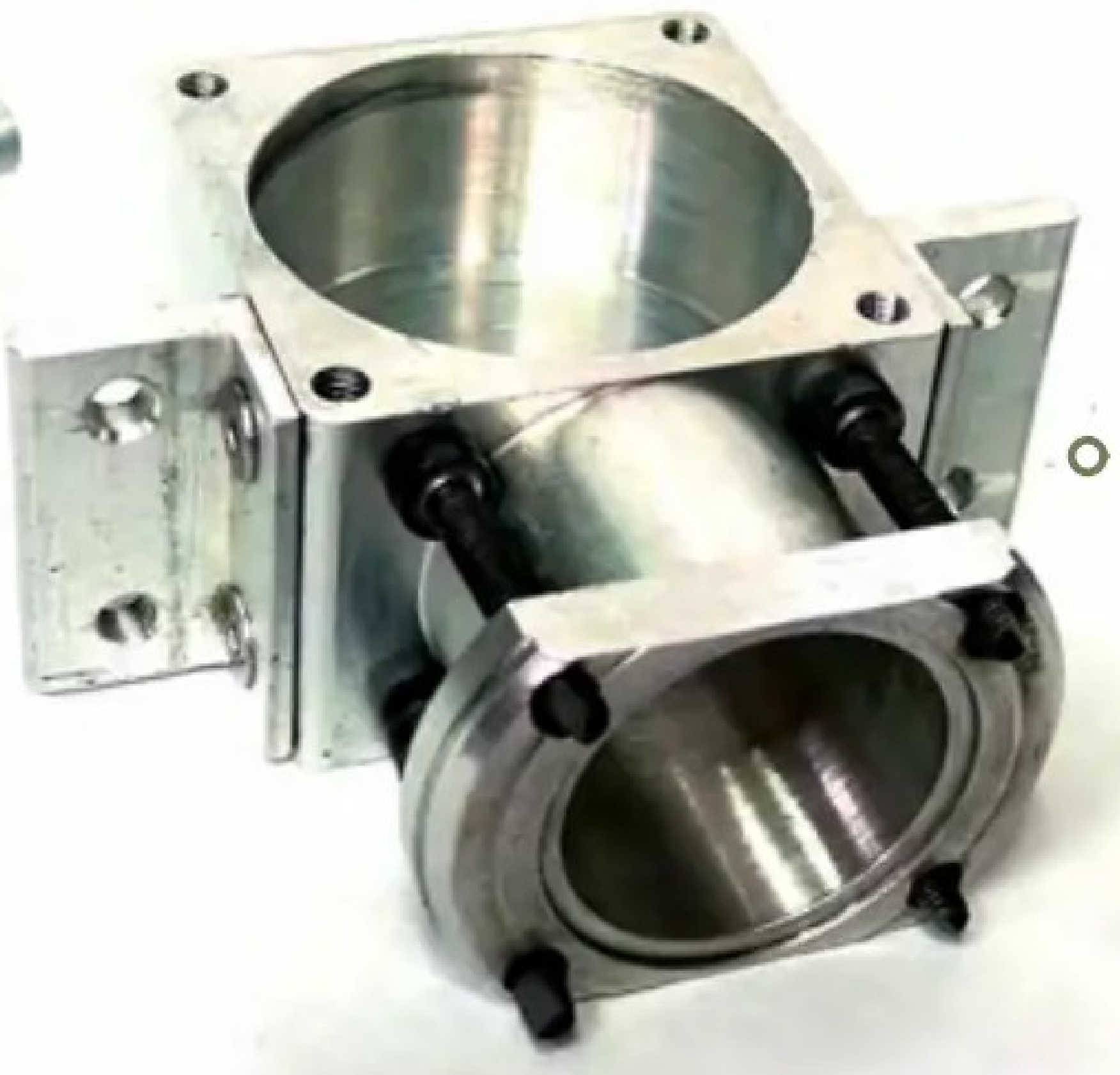
Originally fitted with base plate mounting (more commonly seen with stationary engines) Richard later added beam-mounting lugs.



Richard added a rear ball race and front bronze bushing to support crankshaft. Should last many hours and eases hand starting.

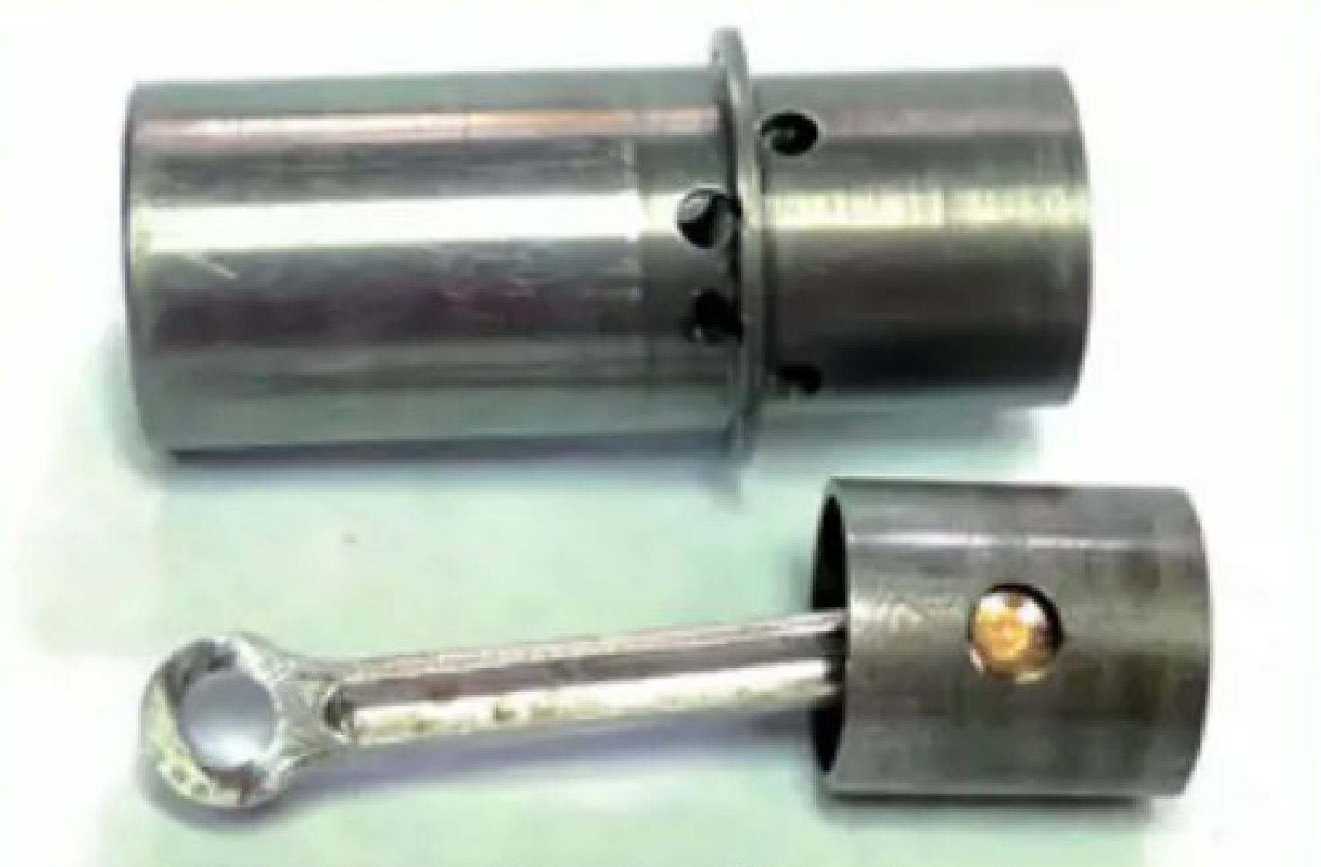


The Major stands almost 100mm tall but is as docile to start and operate as much smaller diesels. Our tests show old-school solid torque and useable power when turning large propellers at moderate speeds, low fuel consumption.



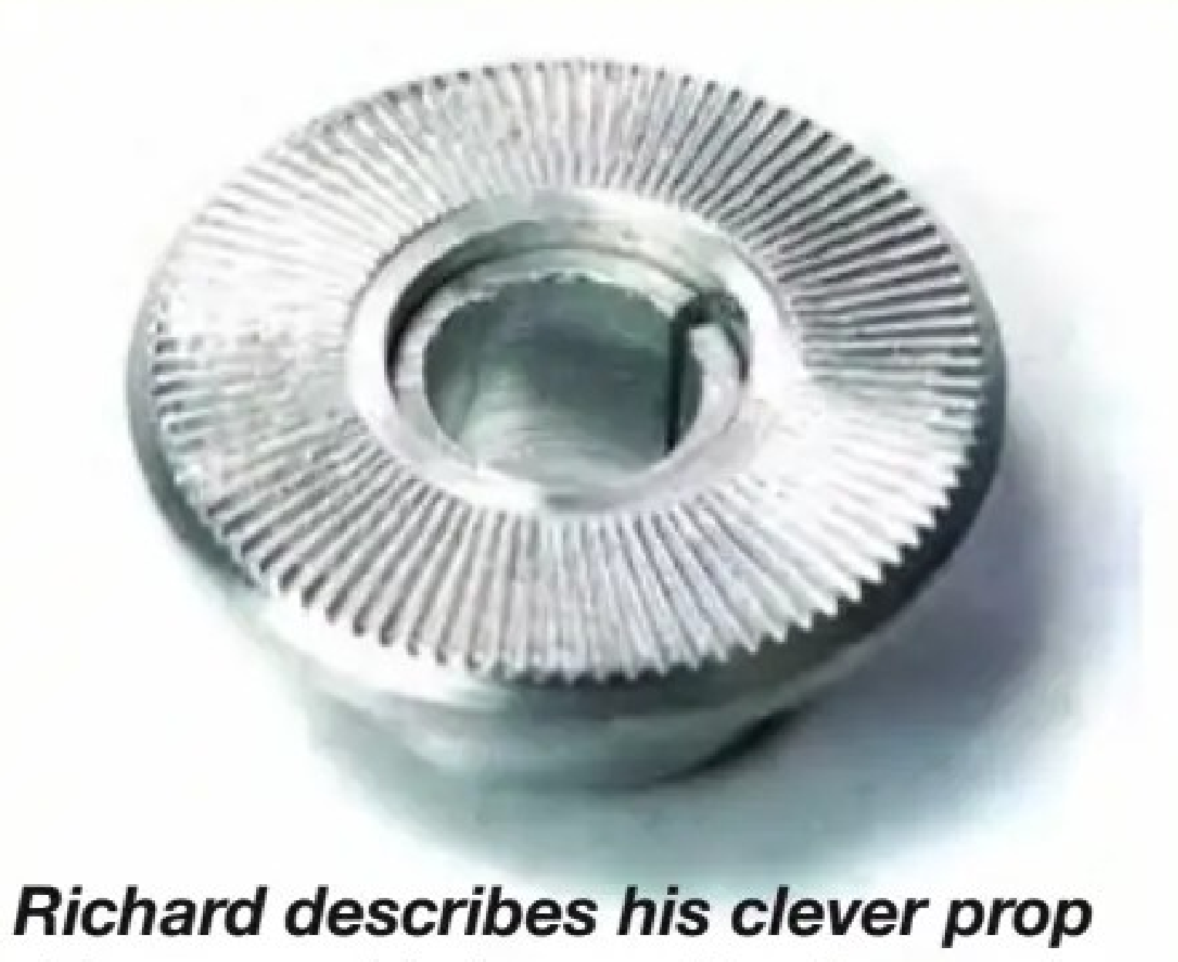
Crankcase block is machined from 1.5 inch square bar. No tricky bypass ports – simply an annular gap around lower cylinder portion.

sel



Cylinder has simple drilled exhaust and transfer ports. No fancy milling required, although Richard chose I-beam section for his connecting rod

Spacer added to wrist pin solved the tendency for conrod to rub against crank web. A round conrod shank of reduced diameter would be another good option for eliminating unwanted contact.



Richard describes his clever prop driver machining method - much neater than the usual plunge knurled face to grip the propeller.

towards the bottom end, it just enters cylinder bore from the top. When tapped completely in, the thin upper wall springs in a touch, resulting in excellent sealing and just the right adjustment feel.

And we were impressed with the neatness of Richard's prop driver "knurling". He shared his method.

Basically I use the mill (Seig SX3) as a shaper. Driver mounted on Rotary Table and 60degree HSS tool in chuck. Center on driver CL. Lower tool to touch then a suitable cut and wind on X axis handle. Rotate RT appropriate amount (eg 4 degrees) and repeat. Here's the really clever bit: by putting a thick washer under one side of the RT I can get the cut to taper in towards the center.

The Major came pre-run, but something felt wrong when turning through the lower half of the stroke. Richard's conrod has flat faces, as shown on the plan. It was clear on inspection it had wear from rubbing against the crank web while running. With pressed-in crankpin, there's no larger standoff portion, as is common with many integral-pin crankshafts. And piston interior allows plenty of lateral conrod movement. A simple aluminium spacer on the gudgeon pin (locating the conrod a little behind cylinder bore centre) solved the problem.

ON THE TEST BENCH

A piece of cake. After modest priming, progressively increased compression got it firing. More adjustment until it would give a healthy burst from a light venturi prime. Then repeated while progressively opening needle until it caught on from the initial burst. Typical of larger diesels, it likes increased compression for cold starts. Then back that off quite quickly as it warms up. Exhaust colour is the guide. It runs clean when correctly set. Mixture adjusted just rich of optimum to avoid white-smoke misfire.

Here's another docile big model compression ignition engine. The ball race on crankshaft makes flicking over nice. No nasty backfiring and quite easy on the ears – thanks to the tiny exhaust ports. And the wee transfer ports ensure fuel consumption is miserly. No exhaust priming needed. Simply choke and flick to start. Often on the first go while still warm from the previous run. It's pure old-school. A smooth runner in its comfort zone, tending towards vibration and unsteadiness when pushed up the rev range.

Richard's own-design barrel type throttle did not give good results, owing to the design's very substantial sub-piston induction. Tests with fuels showed a typical mix of 30% ether, 25% castor oil, 45% kerosene, plus 1.5% ignition improver was fine. Fuel with equal parts SAE 50 mineral oil, ether and kero, plus .8% ignition improver sounded just as good. Might tolerate undoped fuel well enough but not tested.

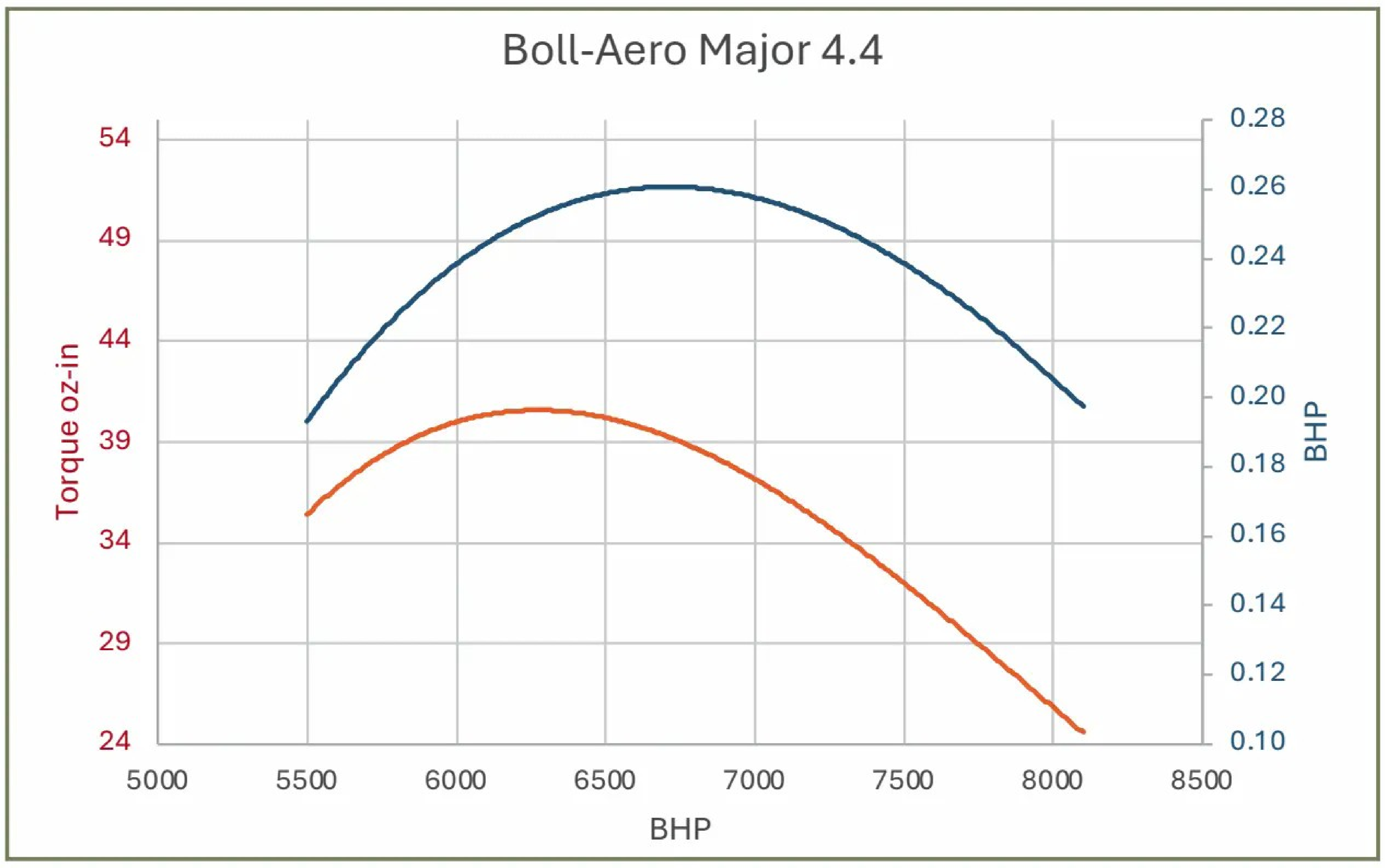
PERFORMANCE ANALYSIS

Quantifying a home-built engine's performance is much like asking some women their age or dress size. Just not done. And it is quite unreasonable to compare one to an equivalent item made in a fully equipped machine shop or factory replete with development staff and high-end technology. But enquiring minds need to know in this instance, and assuming the arcane arts continue, what might be a suitable model built from scratch to fly the thing. Dare we suggest an own design? Engine weight aside, the results are quite flattering. Torque and power curves just about overlap and in true old-school fashion, the operating speed range is quite narrow. Muscular 40 oz-in torque across 6,000 – 6500 RPM and maximum 0.25 BHP in the 6,500 – 7,000 RPM bracket.

You might sneer at that, but with those large, slow flying models, torque wins over horsepower and the OS 25 perhaps didn't do that so well for Chris' Junior 60. Leading to his building a diesel along old-school lines. Considering the original FF version from 1946 paired with the Keil K6 (0.19 BHP plus spark ignition gear) and was refreshed in 1955 with RC gear on board and ED Racer in the nose (around 0.2 BHP with suitably large propeller, but 21 oz-in torque at best). He reported satisfactory results. I'd say Richard's Major might prove a bit much for that model. Simply back off compression, or make a new piston with 2mm longer skirt, to close SPI, so the RC throttle works. I think there's room enough for that at bottom dead centre. Or fly a larger model.

Continuing the possibilities of altering the design to individual taste, why not go for racier performance? By necessity, positioning exhausts above the cylinder mounting flange and transfers below restricts the desirable overlap in their durations. Chris kept the exhaust timing quite mild and transfer timing particularly so. Seeing that only the top half of transfer ports are exposed at bottom dead centre, I was sceptical of performance potential. Even doodled the idea of lifting the cylinder with a spacer for longer durations. Gerard Bleekman drilled the ports upwards at an angle in his Major, but any benefit was not reported in Chris' AMI article. Extended transfer duration (or perhaps more ports) would probably lift power potential by enhancing mixture transfer at higher speeds. Except the Major (without further modifications) would then be best suited to shaking James Bond's martini. Our testing suggests the original design makes sense.

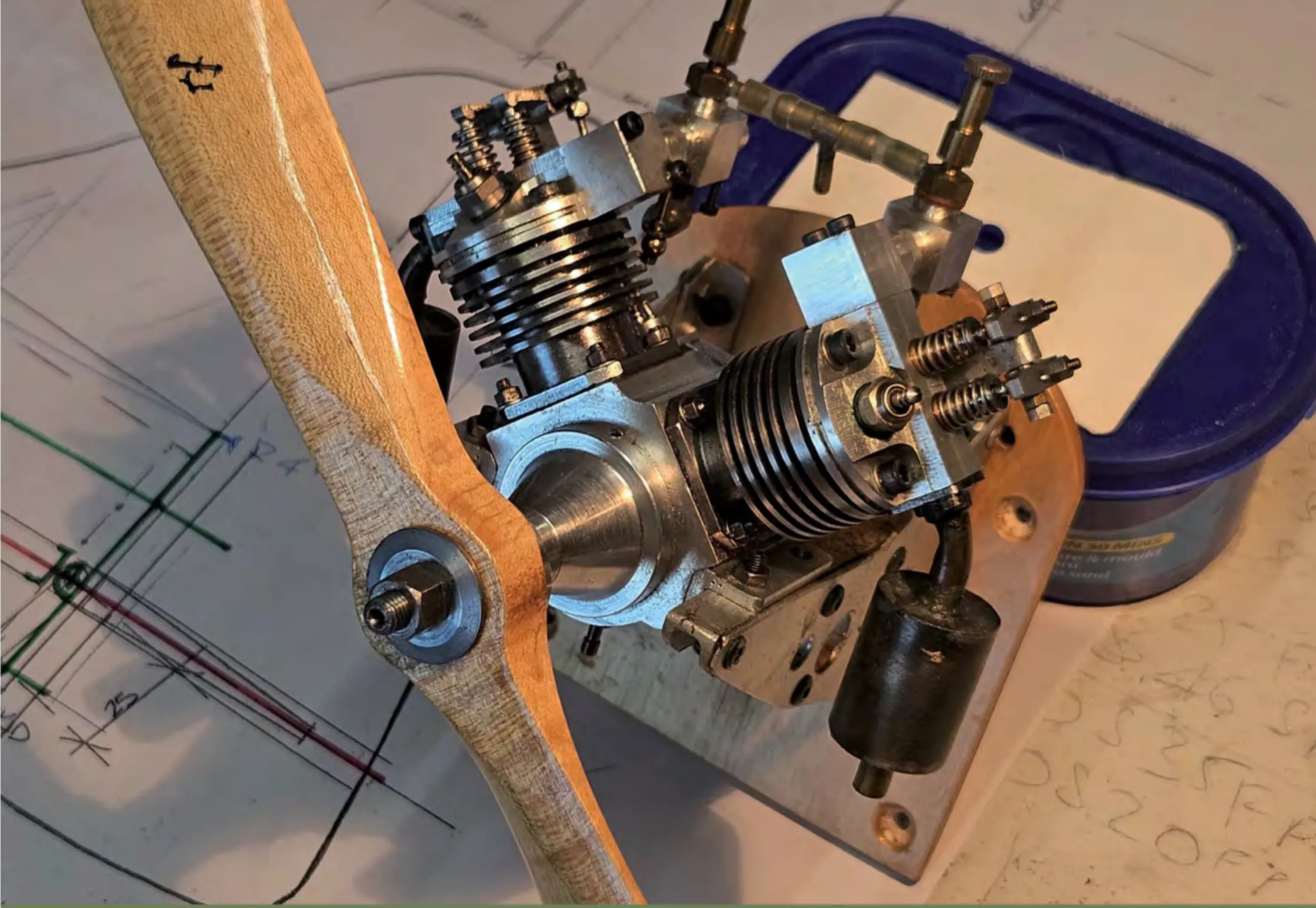
Chris Boll deserves credit for a practical design that delivers good power, beyond the basic bench demonstration level. High marks to Richard Fallas for his workmanship and our thanks for giving us the genuine pleasure of putting the Boll-Aero Major 4.4 through its paces. ■



- Bore ....625 inch (15.9mm)
- Stroke ....874 inch (22.2 mm)
- Swept Volume.........................0.268 cu.in. (4.39 cc)
- Stroke to Bore Ratio 1.4:1
- Exhaust duration......................135 degrees
- Transfer duration......................70 degrees
- Intake opens ....70 degrees ABDC
- Intake closes...........................15 degrees ATDC
- Intake duration.........................125 degrees
- Weight.....................................12.56 oz. (356 grams)

Propeller	RPM
APC 14x6	5500
APC 13x7	6100
APC 13x6	6200
APC 12x6	6800
APC 11x6	7500
APC 10x6	8100

Builder's Acknowledgements: *I have been given a lot of encouragement since my first small diesel in 1992 – my own-design 0.5cc Sandfly (see MEN Gallery) which flew in a small 2 channel model at Old Warden. In particular John Benson in the UK encouraged me to try bigger and more complex engines. In 2012 I discovered Model Engine News and corresponded with Ron Chernich, who's amazing website and resources were of huge help. I met Ron in October 2013 shortly before he left us in early 2014. Local tool maker and modeller Grant Gedye here in NZ has been very patient and supportive with my slightly odd-ball ideas. Ross Purdy, another local engine builder here north of Auckland, has also collaborated and provided the plan copy for the Boll as he did for the Parker V Twin Vega which we have both also made. Now I just need to get both the Boll and the Vega flying! Fellow ex De-Havilland / Hawker Siddeley apprentice Ricky Bould has allowed me to disassemble many of his motors in the pursuit of dims for new projects. Thanks to all. Richard Fallas, Dairy Flat, NZ.*



Not just a one trick pony. Richard's Vega V-twin four stroke is a much more ambitious achievement *(Fallas photo).*

Progress Aero Works

Union Mill, Union Street, Macclesfield, Cheshire, SK11 6QG • Tel: +44 [0] 1625423891 • www.paw.ac

- Available engine sizes .5cc (.033 cu inch) through to 10cc (.60 cu inch)
- 3 Strand High Tensile steel piano wire in
  .30mm {0.012}
  .35mm {0.01378}
  .385mm {0.015 sizes}

Ballraced and plain bearing engines for the sport or competition modeller

Engines are all developed and manufactured in the uk

Oxford Model Flying Club Free Flight Scale Fly-in 2025

Chris Brainwood reports on this year's Oxford MFC's Scale Fly-in, held on Port Meadow in near 30C temperatures, and light Easterly winds.

2025 may well be remembered as the summer of heat waves and by the time the club's annual Free Flight Scale Fly-in came along we were well into our third. The day before temperatures had reached a sweltering 32C in the afternoon so the early morning starts to our competition seemed like a good idea, even so we decided to start an extra hour early at 8:30 so we could finish at 12pm and be off the meadow before the higher heat of the afternoon.

The plan seemed to work well with competitors arriving early to take advantage of the cool calm air to get in their flights. The normal 10:30 curfew on IC engines was also relaxed so those of the oily hand brigade could make the most of the conditions as well. CD Gary Law also had plenty of water on hand, a Gazebo for shade with chairs to sit on and was able to ferry people back to the car park at the end of the day which all made it much more pleasant.

Despite the predicted heat the meeting was fairly well attended, with some fun flyers with both Scale and Sport models and spectators which was great to see.

The Flying Only Class saw the largest entry with 11 models. The rules allow up to 2 models per entry so Mike Staurt, Pete Fardell and Chris Brainwood all took advantage of the extra flying time and had a couple of entries. Bill Dennis was the CD, with the help of Trish Dennis, who judged the class in the smooth and relaxed style we are coming expect from an OMFC event.

The class is judged on flying realism with marks awarded by the judge for different aspects of the flight, from the climb, cruise and landing approach. The best scoring flight is then used to determine the winner with 4 flights permitted. The were no attempts so once you let go of your model it counts as a flight.

The flying conditions were often quite tricky as the morning warmed up, with some quite bumpy air to contend with. Finding a calm patch definitely

Sunlight through David Kings BAT Monoplane. *(Andy Blackburn Photo).*

Andy Blackburn's magister circles overhead. *(Andy Blackburn Photo).*

Chris Brainwood's DH60 climbs away. *(Andy Blackburn Photo).*

made all the difference, not so easy to do for those with IC engines as once you have started your diesel you generally just go with it.

Both Mike Smith and Chris Brainwood fielded DH biplanes with very similar results. Both were IC powered and both had flights where they turned quite tightly and both found out how hard the meadow is after 3 heat waves. Mike's Tiger Moth unfortunately had a hard arrival under power and breaking the rear fuselage off at the tail, leaving him with a model I would have put straight back in the car. Undeterred, Mike got out the Cyano and set about sticking it all back together. Much to his credit and skill it flew again, several times flying well enough for a reasonable score in the conditions. Fairing only slightly better and just 25 points ahead was Chris Brainwood's DH 60 Moth. On Chris's first flight the fuel level was misjudged and it ran out just after launch, the resultant stall and dive broke off the fin and despite also hitting the cyano bottle it never really got its usual trim back after that, with a nice climb but a bit of a spiral dive on the glide.

Mike did much better with his rubber powered Aeronca Defender to gain 9th place. Charlie Jeffreys had his Rumpler flying nicely looking very much the part as it flew in lovely large circuits over the meadow. Charlie has clearly finessed the trimmimg from last year and was rewarded with 8th place just behind the equal 7th of Pete Fardell's Stinson Sentinel and David King's BAT Monoplane. David's Bat Monoplane looked very impressive in the air, very slow flying with its broad chord wings.

Mike Stuart's Bristol Superfreighter looked and sounded superb but for the early flights the model was down on power, no doubt due it having been last

Chris Brainwood launches his DH60. *(Andy Blackburn Photo).*

David King launches his BAT Monoplane. *(Andy Blackburn Photo).*

Ivan Taylor launches his Auster. *(Andy Blackburn Photo).*

Ivan Taylor's Auster overhead. *(Andy Blackburn Photo).*

Mike Smith's Tiger Moth. *(Andy Blackburn Photo).*

flown at the Indoor Nationals. With the power increased it was climbing much better but the more turbulent air meant it bounced about a bit more than was Scale and it was unable to repeat it's winning success of last year.

One model that always seems to confound the conditions and produce a high scoring flight is Pete Fardell's Bleriot XI. This rubber-powered model oozes the character and charm of an Edwardian aircraft and even has a model of Louis Bleriot himself flying it. The Bleriot also fly indoors as well even using the same rubber motor, which is extraordinary as often indoor models need more power to fly in the less than perfect conditions we have outside, as Mike's Bristol proved. Pete's Bleriot managed 5th place, just five points behind Andy Blackburn's 4th place Miles Magister.

The Miles is built from the Aerographics design and was looking very smooth in the air, it was also entered in the Rubber Duration Class proving you need a car full of models to enter the Scale comps. 2nd and 3rd were also separated by just 5 points. Mike Stuart's Consolidated Fleetster looked very convincing as it circled above our heads but lost out to the now well sorted Cessna 170 of Chris Brainwood.

Ivan Taylor launches his DH Chipmunk. *(Andy Blackburn Photo).*

Mike Stuart launches his Beech Bonanza. *(Andy Blackburn Photo).*

Charley Jeffreys Froglet Taube and Ace of Diamonds. *(Charlie Jeffries photo).*

Charlie Jeffreys collects his now soggy Ace of Diamonds from Farmoor Sailing club *(P Jeffreys photo).*

Pete Fardell with his Stinson Sentinel. *(Charlie Jeffries photo).*

Ivan Taylor's Auster Chipmunk and F16. *(Pete Fardell photo).*

Mike Stuart's Bristol Superfreighter. *(Pete Fardell photo).*

Pete Fardell's Bleriot XI. *(Pete Fardell photo).*

Out in front though by an impressive 25 points was Ivan Taylor's Gloster Meteor. The model is twin EDF and like most of Ivan's models to his own design. The flight was truly impressive and captured on video by Charlie Jeffreys, (checkout the link to youtube coming shortly), It looked to all intents and purposes a like real meteor over the meadow, and one flight won him the class and the John Blagg Trophy.

HI-START SCALE GLIDER

The class is the total of three flights using the provided bungee hi-start. The class attracted 6 entries but all the flyers found the conditions a challenge. The Peterborough rules bungee saw a lot of activity throughout the morning but only half the entrants managed a qualifying flight. Aside from the bumpy thermal air the models had to fly in, the ground after successive heat waves was baked hard and proved very unforgiving if the model turned on the line and headed down at speed. A recent mowing of the grass made things worse with little in the way of cushioning.

Pete Fardell and Mike Stuart both suffered damaged models and retired, Mike loosing the front end and therefore nose weight from his Schweizer, Pete and Colin Sharman also failed to get a time on the board and Chris Brainwood managed just one qualifier with his Slingsby Eagle before another poor launch and dive to the side saw the wing dowels finally give up and retired as well. David King fared better with two qualifying flights in the tricky conditions with his Zlin 24 to gain 2nd place, while the only entrant with 3 flights on the board was Bill Dennis with his Schweizer. A total of 38 sec gave Bill the class win.

SCALE RUBBER DURATION

This year saw a new class, the Scale Rubber Duration. The class follows the Flying Aces Club rules fairly closely, which allow monoplanes up to 36 ins span and multi wing models up to 30 ins. A set of bonuses are then added to the score to determine the winner. Due to the conditions on the day, with the wind direction heading for the river, a max of 60s was set by the CD.

6 models entered all looking for that 60 sec max. Mike Stuart initially entered his lovely little Beech Bonanza and managed a first flight of 18 sec however the next resulted in a broken tail so a second model, a Nieuport was entered to take it's place. This model fared somewhat worse and re-kitted itself on it first flight, leaving Mike the only option to repair the tail on his Bonanza. That paid off and the resultant flights saw him just 10 points

Andy Blackburn winner FROG senior. *(Chris Brainwood photo).*

Bill Dennis launches his Schwiezer. *(Chris Brainwood photo).*

Bill Dennis' SE5a. *(Chris Brainwood photo).*

David King's BAT Monoplane. *(Chris Brainwood photo).*

Ivan Taylor winner John Blagg Trophy. *(Chris Brainwood photo).*

behind the 4th place of David King with his BAT Monoplane. David's BAT is a new model and is scaled up from the smaller kit version. It works very well at this size with a lovely slow flying speed and even scored a max on its last flight.

Pete Fardell's Stinson Sentinel was going well too and though it didn't manage a max it was consistent, and with the bonuses added gained a well earned 3rd place just 1 point ahead of David's BAT.

Out in front though were Andy Blackburn's Miles Magister and Ivan Taylor's Auster. Both managed 3 maxes but the winner was decided on the bonus system with Andy coming out on top with his smaller Miles Magister.

The performance of Ivan's Auster was remarkable though with all flights over 90 sec, the final being 5 minutes. This did cause a bit a of a problem as the DT wasn't set and the model drifted off downwind still in lift and heading over the Thames. Ivan watched it down with binoculars into the land beyond the river and hoped to retrieve it later as it was fitted with a tracker bug. Bill and Trish aided by Alan Trinder and Colin Sharman set off after the meeting in search of the model using the tracker to pinpoint its location. They got within 3 meters of the indicated location but could not find it suspecting it is somewhere above them in the trees. (Editor: we were convinced that Ivan's Auster had glided into the top of the dense canopy of the wood we were in. Incredibly, although we could not see Ivan's Auster, we did see the white wing of another model, which looked to have about an 8 inch wing chord. That model was far too high in the tree for us to be able to retrieve it.). Update – Alan Trinder and Gary Law returned two weeks later to the thick wood where we believed Ivan's Auster was located. They found that the model had worked its way through most of the trees, and they were able to retrieve it. The model had suffered some damage, however they only thing they did not find was one wheel! Ivan reported a couple of weeks later that the model had been repaired, and was ready to fly again.

Despite the fly away the class looked like fun and went down well with the competitors so why not give it a go, particularly if you have only flown duration models before. It could be a great and fun way into Scale models.

FROG SENIOR

The FROG Senior Class attracted 3 entries, with Andy Blackburn the clear winner with a couple of flights over 40 sec ahead of David King. Gary Law managed just one competition flight around his CD duties, which took up the bulk of his time.

There were also several modellers who took advantage of the chance to visit, and fun fly on Port Meadow with a variety of models, from Paul Nottley's lovely Mustang to Simon Milan's Scale and duration models. Charlie Jeffreys found time not just to compete in the

Mike Stuarts Schwiezer. *(Chris Brainwood photo).*

Pete Fardell's Bleriot XI. *(Chris Brainwood photo).*

Pete Fardell's Catron & Fisk Sport triplane. *(Chris Brainwood photo).*

scale class with his Rumpler Taube but also flew his Froglet (Free AM Plan in the June 2024 AeroModeller) and Ace Of Diamonds . The Ace of Diamonds is quite a sight with its diamond shape cruising above the meadow. It flies particularly well and has a lovely glide, perhaps too lovely as on one flight it flew into some very strong lift much to Charlie's horror. His Ace of Diamonds was last seen still climbing, clearly enjoying it's freedom and disappearing as a speck over the distant hills on the horizon. Model fly aways are never good but Charlie did have a name and number on the model in case somebody did find it and left the meadow with just that to console him.

Charlie's luck was clearly in though, as just a few hours later he got a call from the local sailing club saying a lad had found his model in the Farmoor reservoir. Charlie was happily reunited with his model albeit more soggy and covered in pondweed than when he last saw it. He was very lucky someone spotted it, as club member Charlie Newman says fly aways in the Farmoor direction are often never seen again. His theory was that the sink over the cold water ended in a watery grave, exactly as happened to the Ace of Diamonds.

Gary Law did a great job running the competitions aided by chief timer Alan Trinder and general helper Chris Brainwood, while Bill Dennis ran the Flying Only competition aided by Trish Dennis. The operation worked well and by 12:30 pm the competitions had ended with a prize giving to finish things off. Most of us were off the meadow by 1:30pm and heading for the cool of car air-con after of course a trip to the ice cream van. ■

RUBBER SCALE DURATION

	Name	Model	Bonus	Flight 1	Flight 2	Flight 3	Total
1	Andy Blackburn	Miles Magister	45	60 max	60 max	60 max	225
2	Ivan Taylor	Auster	20	60 max	60 max	60 max	200
3	Pete Fardell	Stinsen Sentinel	45	44	33	33	155
4	David King	BAT Monoplane	20	39	35	60 max	154
5	Mike Stuart	Beech Bonanza	75	18	37	14	144
6	Mike Smith	Aeronca Defender	30	-	-	-	-

SCALE GLIDER

	Name	Model	Flight 1	Flight 2	flight 3	Total
1	Bill Dennis	Schweizer TG-2	14	12	12	38
2	David King	Zlin 24	13	13	-	26
3	Chris Brainwood	Slingsby Eagle	10	-	-	10
-	Colin Sharman	Slingsby Prefect	-	-	-	-
-	Mike Stuart	Schweizer SG2-22	-	-	-	-
-	Pete Fardell	DH Sparrow	-	-	-	-

FLYING ONLY

	Name	Model	Power	Best Flight
1	Ivan Taylor	Gloster Meteor	electric	880
2	Chris Brainwood	Cessna 170	I/C	855
3	Mike Stuart	Consolidated Fleetster	rubber	850
4	Andy Blackburn	Miles Magister	rubber	785
5	Pete Fardell	Bleriot XI	rubber	780
6	Mike Stuart	Bristol Superfreighter	electric	775
7=	Pete Fardell	Stinson Sentinel	rubber	730
7=	David King	BAT Monoplane	rubber	730
9	Charlie Jeffreys	Rumpler Taube	I/C	700
10	Mike Smith	Aeronca Defender	rubber	685
11	Chris Brainwood	DH 60 Moth	I/C	655
12	Mike Smith	DH 82 Tiger Moth	I/C	630

Plenty of Cyano repairs were evident including the fin of Chris Brainwood's DH60. *(Chris Brainwood photo).*

FROG SENIOR

	Name	Model	Flight 1	Flight 2	Flight 3	Total
1	Andy Blackburn	Linnet	43	37	45	125
2	David King	Redwing	25	32	38	95
3	Gary Law	Linnet	11	25	-	36

ROMANY WITH DOCULAM AND TISSUE

JOHN BRISTOW OF DELUXE MATERIALS PHOTOGRAPHED EACH STAGE OF BUILDING A VMC ROMANY, COVERED WITH DOCULAM AND THEN DELUXE MATERIALS EZE TISSUE. HERE ARE THE DETAILED STEPS.

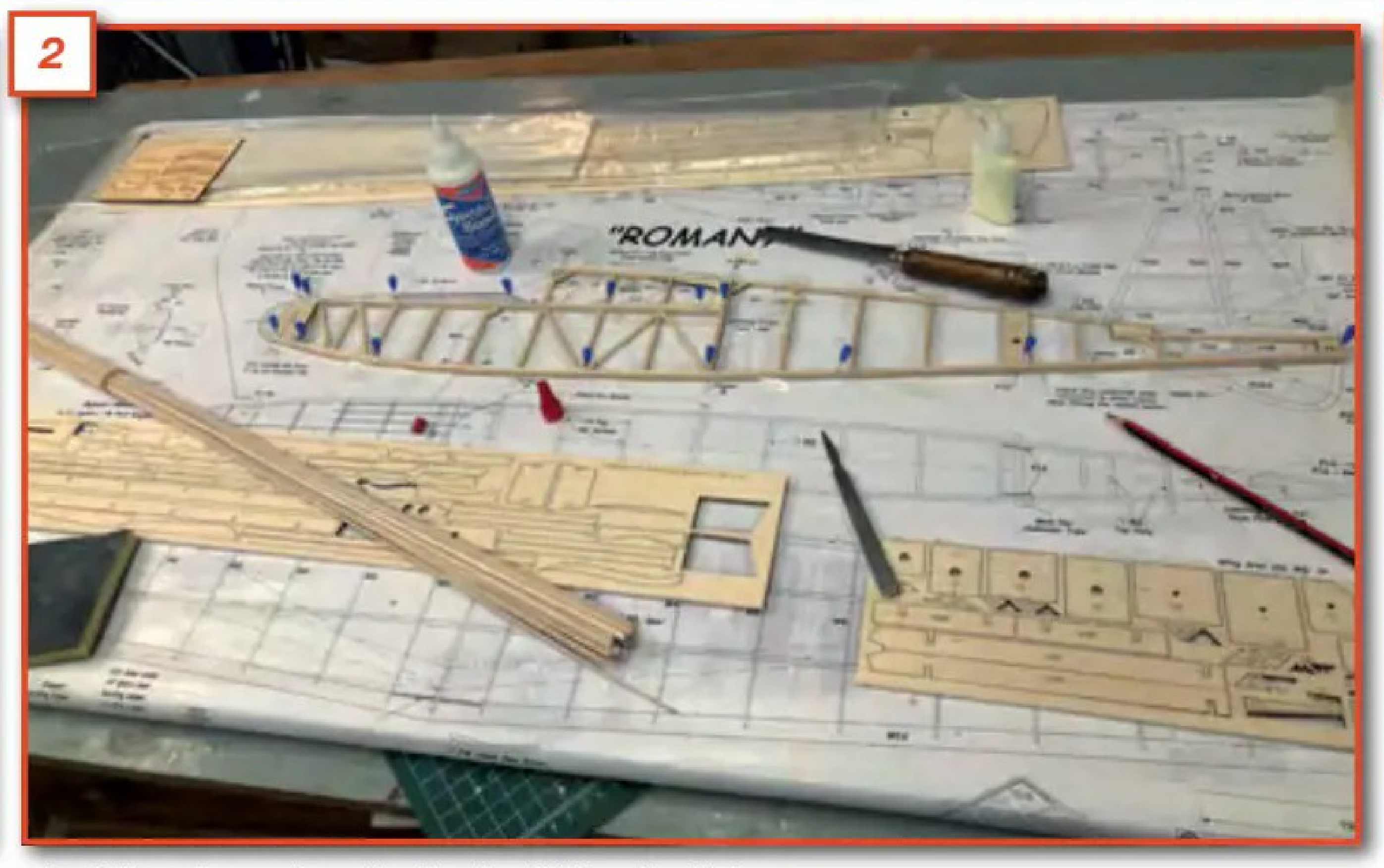
John also has some spare sets of sheets of the tissue design for Romany and Gipsy, at £150 for a complete set of the tissue design. They are available from John Bristow at Deluxe Materials, phone ***01256-700805/898891****, or at* ***john@deluxematerials.com***

1

Top Only
ROMANY 1-8
BALSA SHEET
3 OF 4

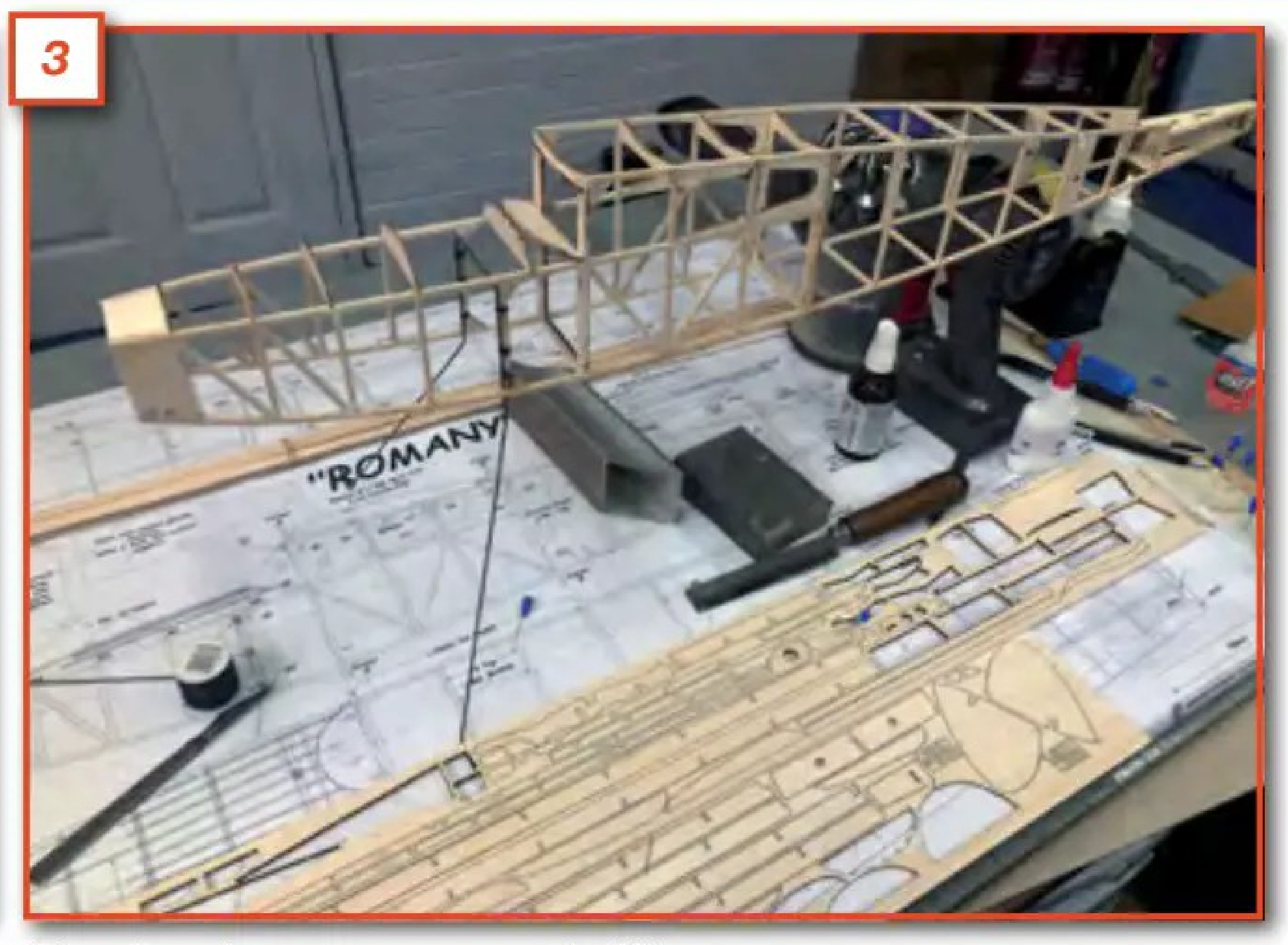
Lovely laser cur parts supplied by Vintage Model Company.

2



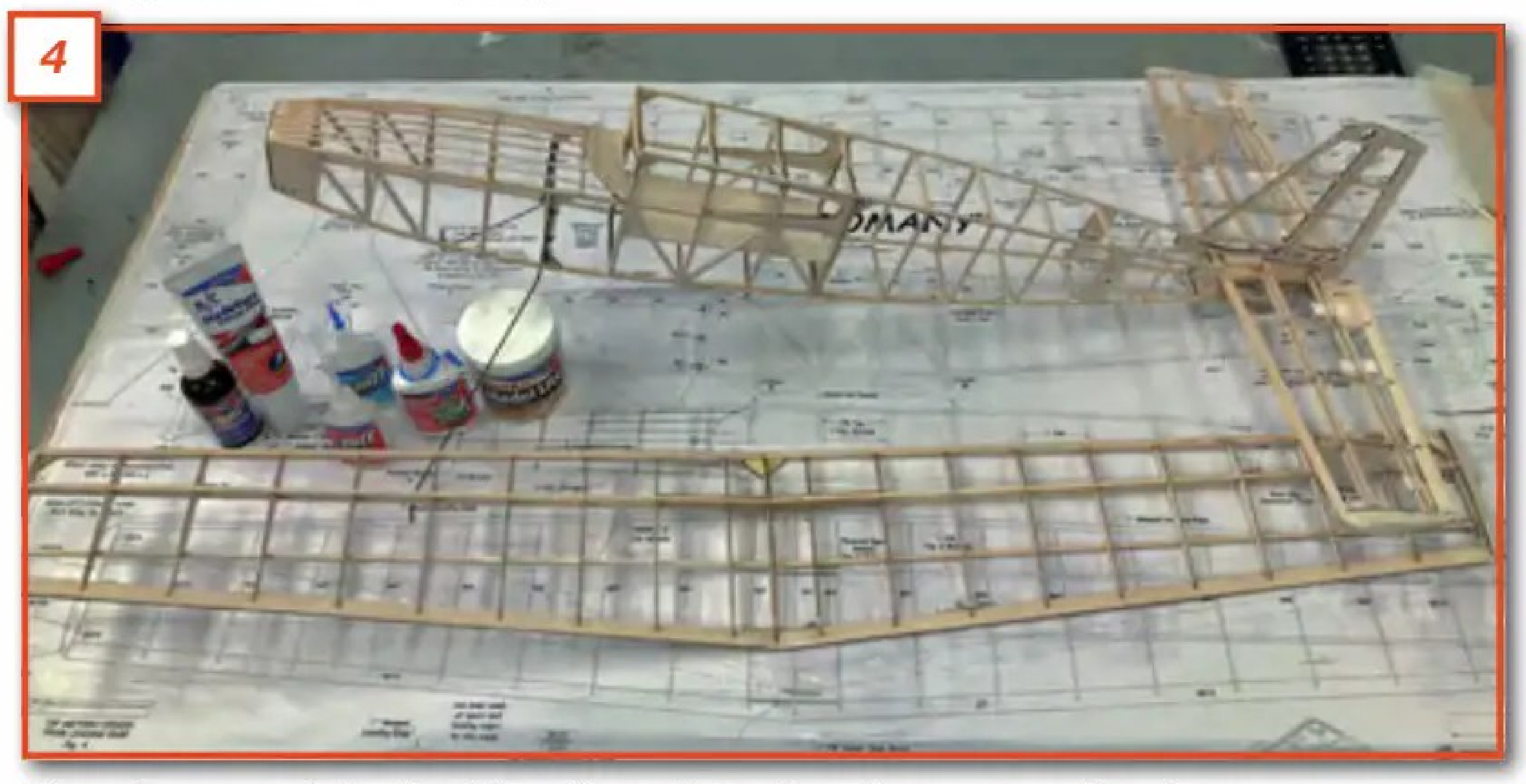
Laid out parts at start of the build.

3



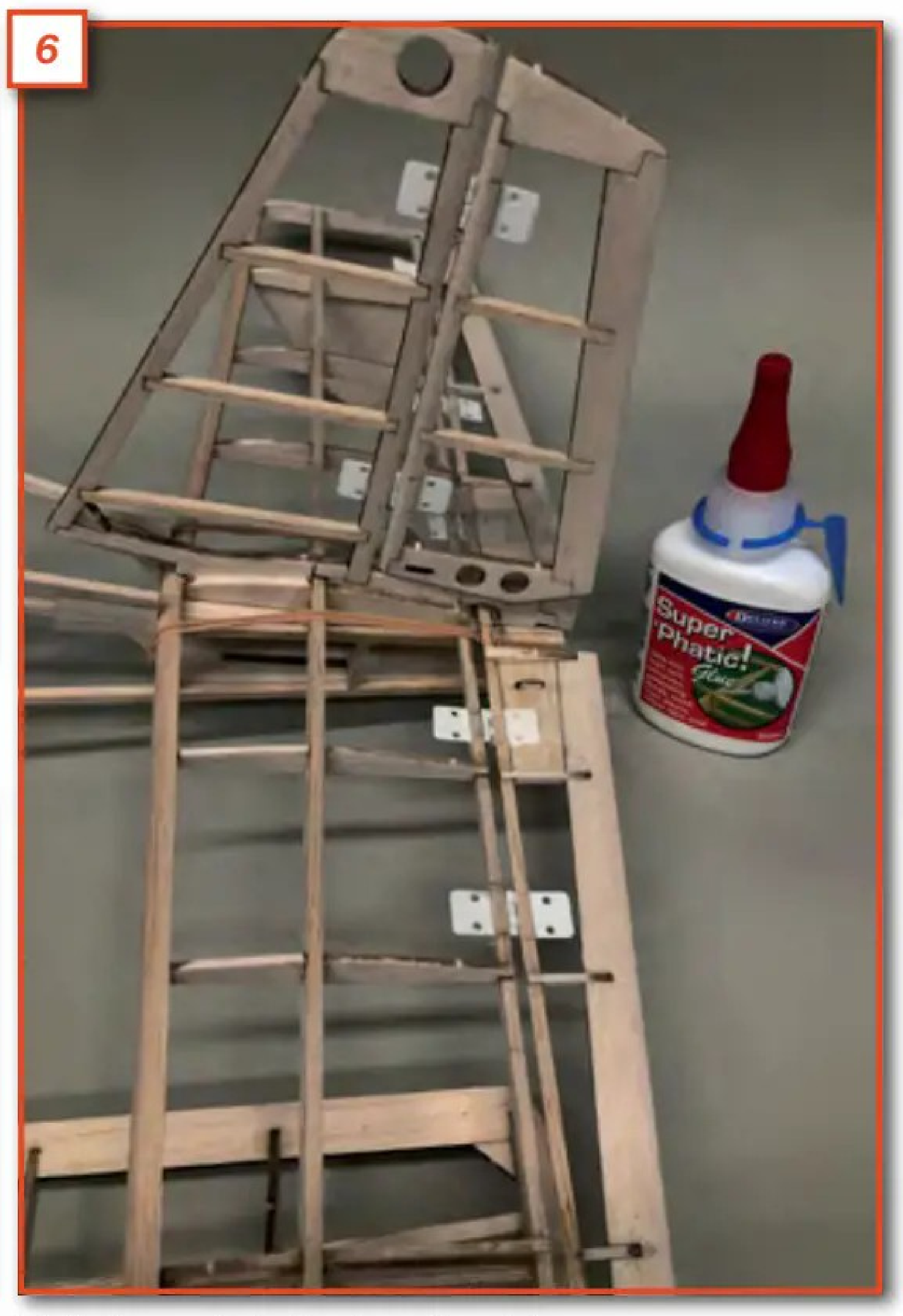
The fuselage was soon built.

4



Nearly completed with wing stregthening spars in place, and showing the products used.

6

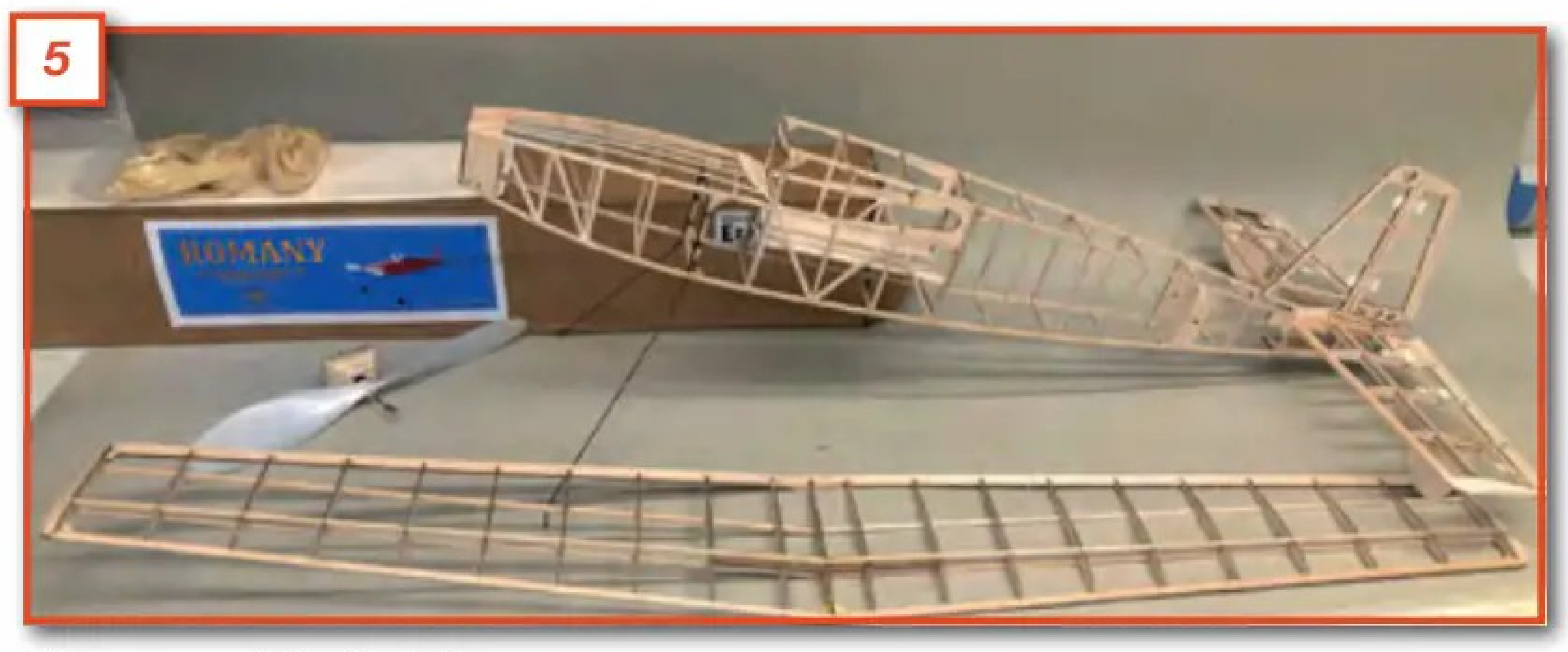


Tailplane detail, showing hinges.

7

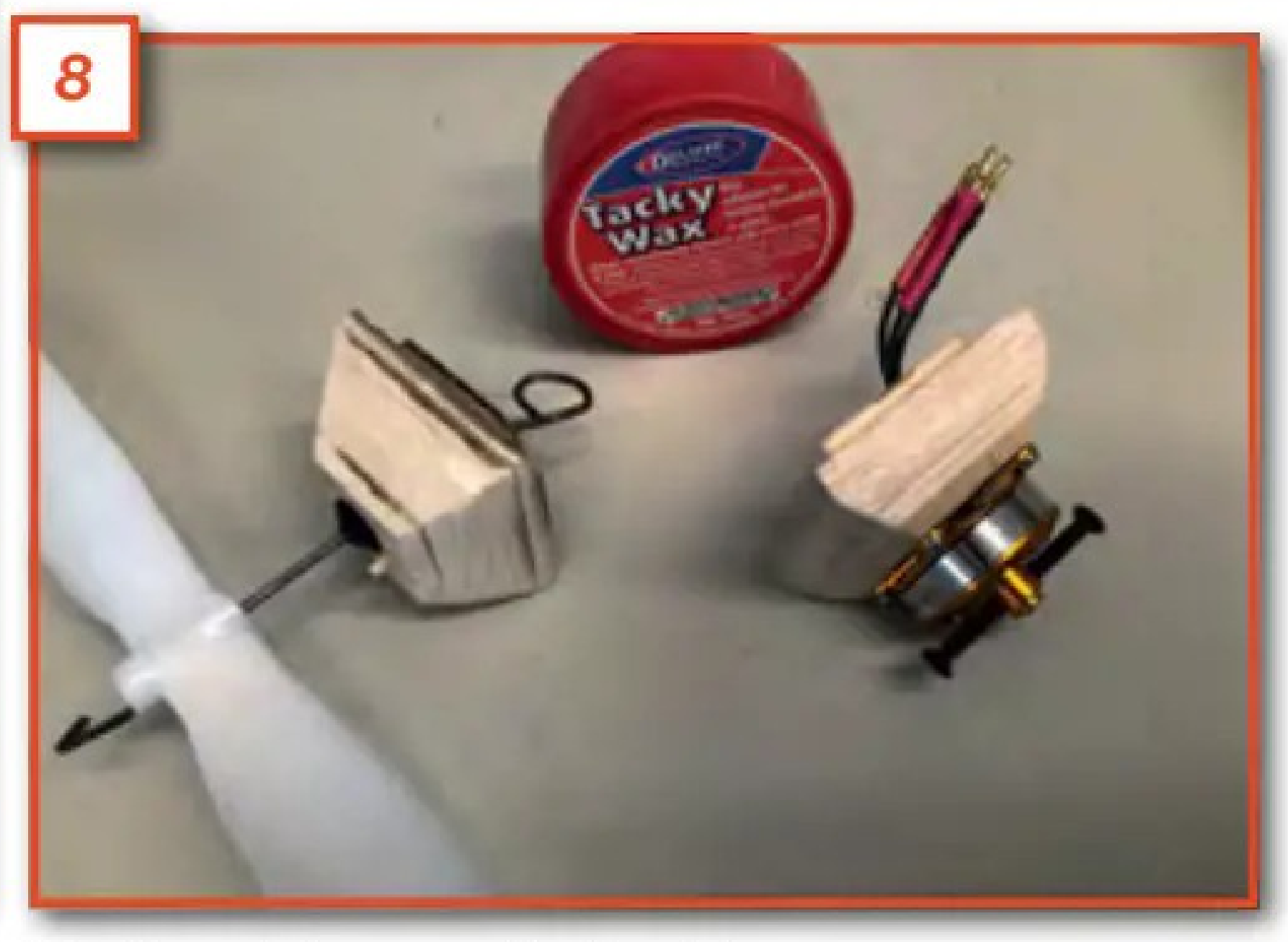
Tackywax used to hold screws to mount the motor.

5



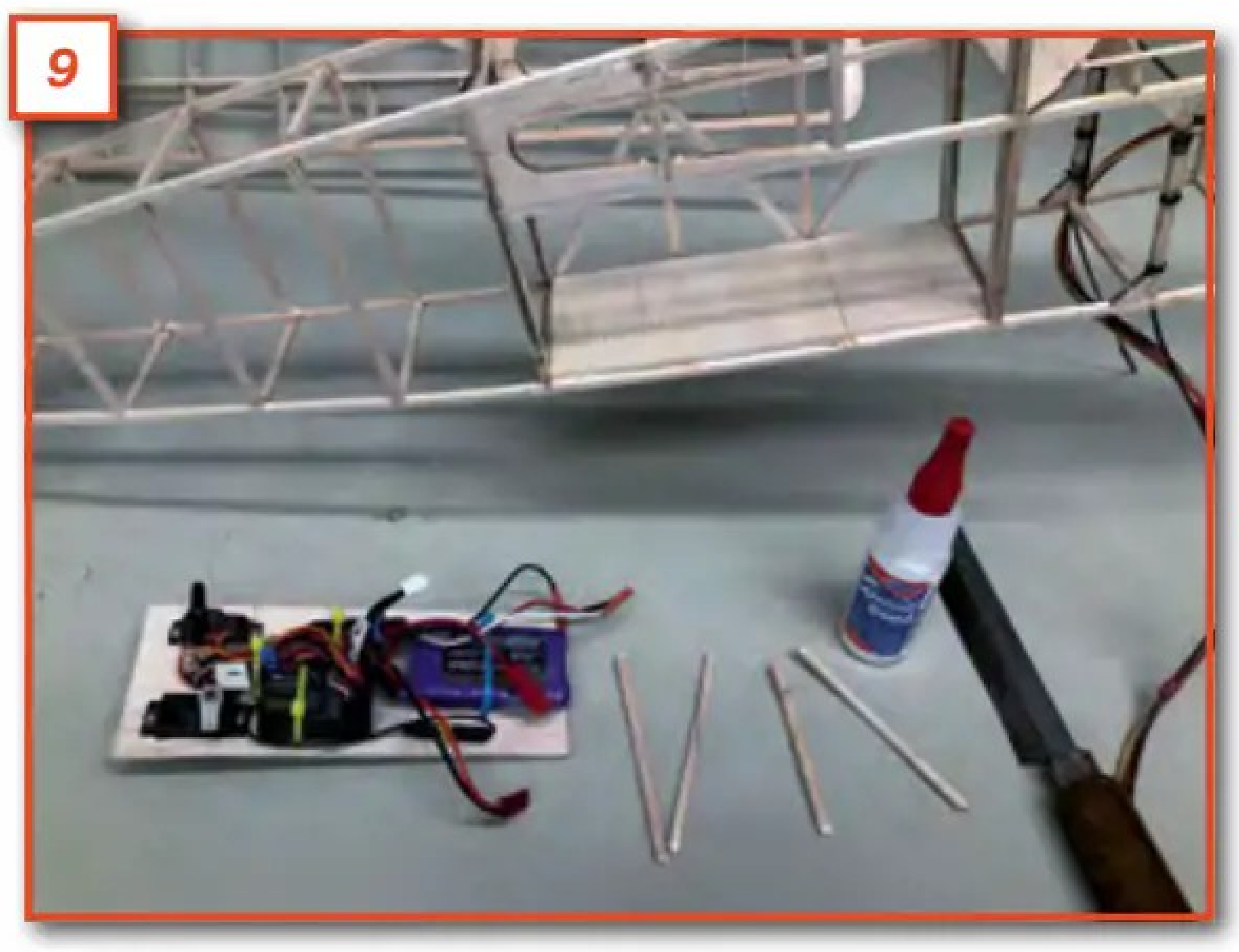
The completed airframe.

8



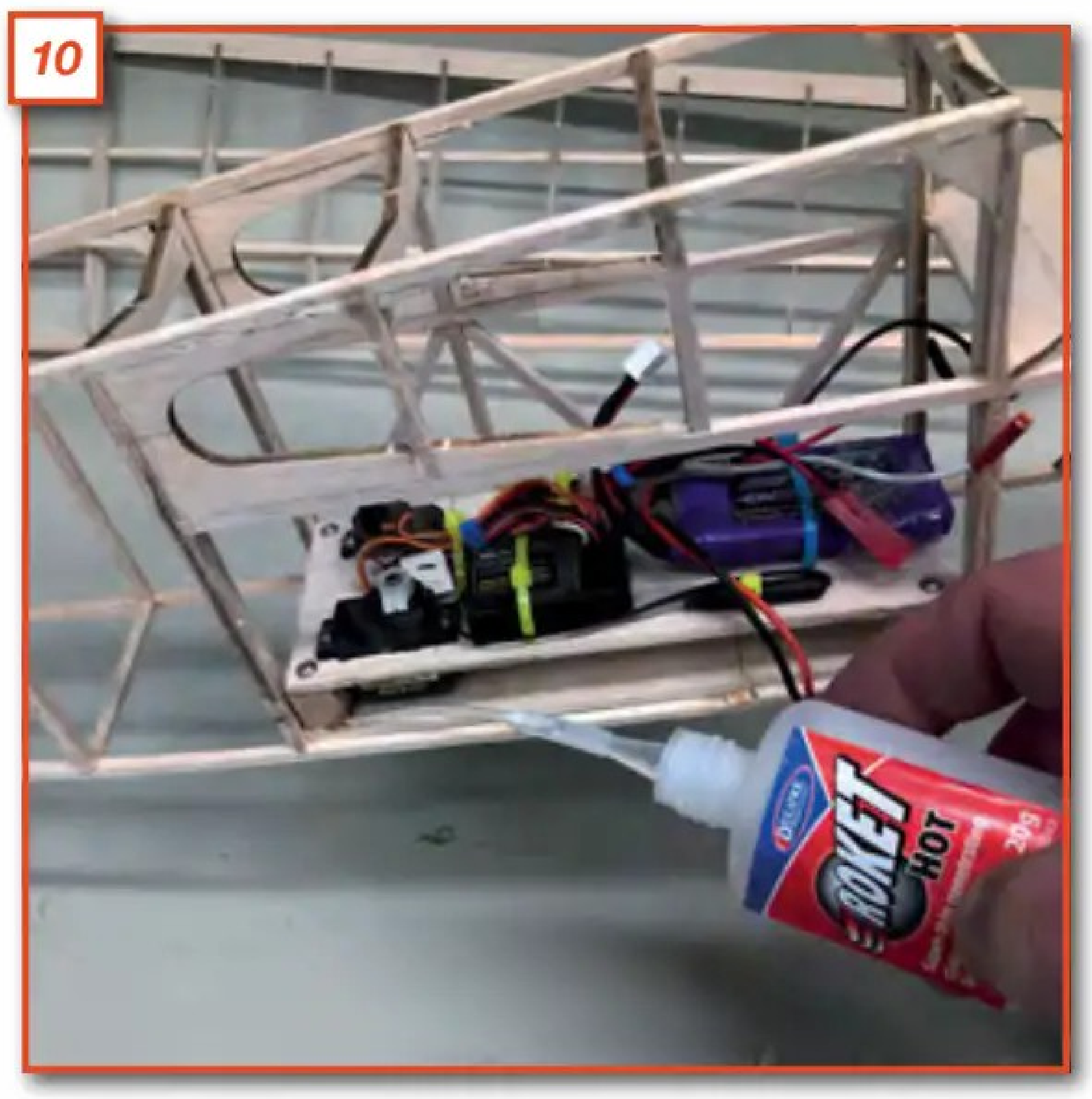
Both rubber and electric nose cones made, as model can use either rubber or electric.

9



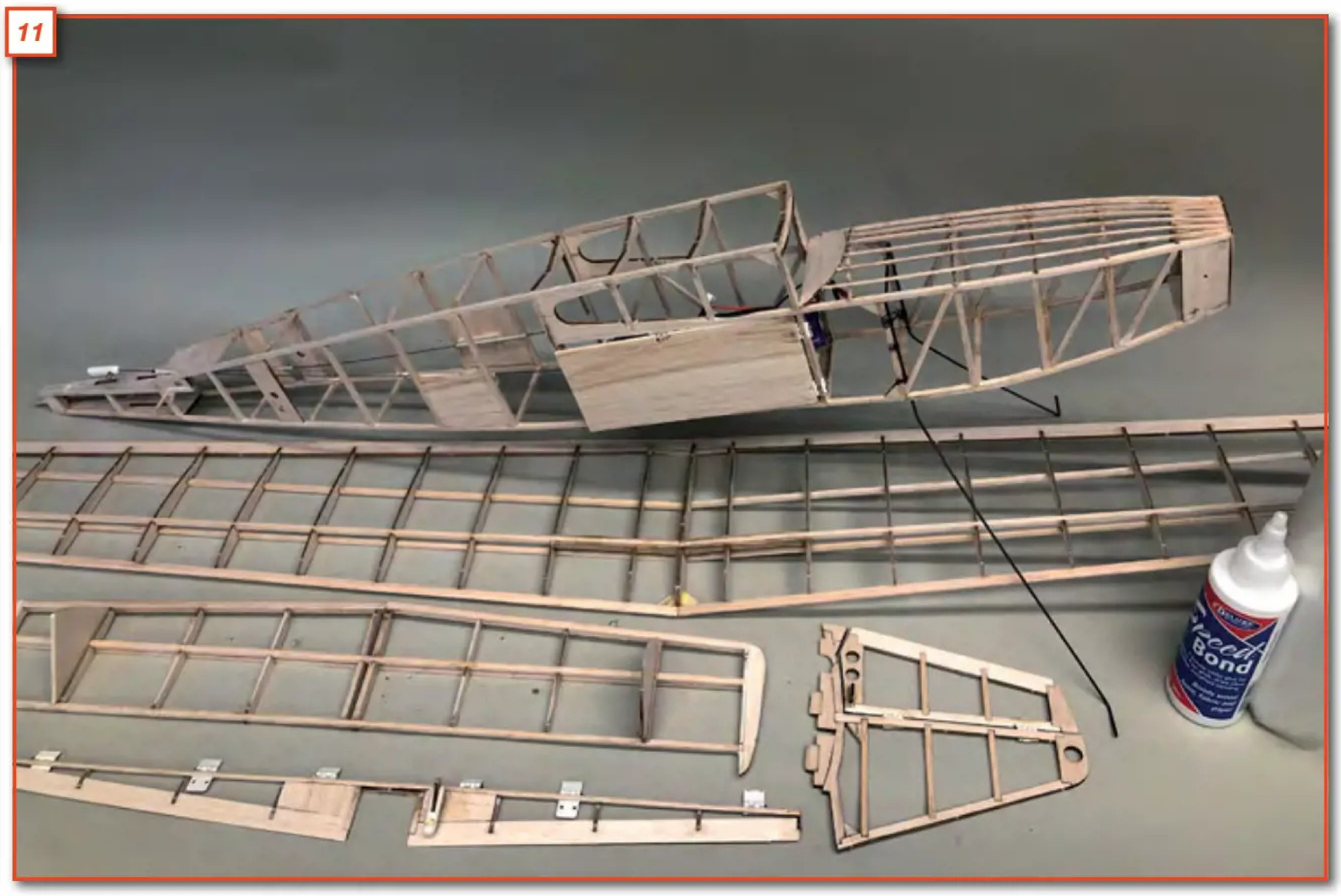
Rx and servo tray with cut away.

10



Mounting the Radio Control / servo tray - mounted low to allow rubber power option.

11



All balsa airframe model ready for covering.

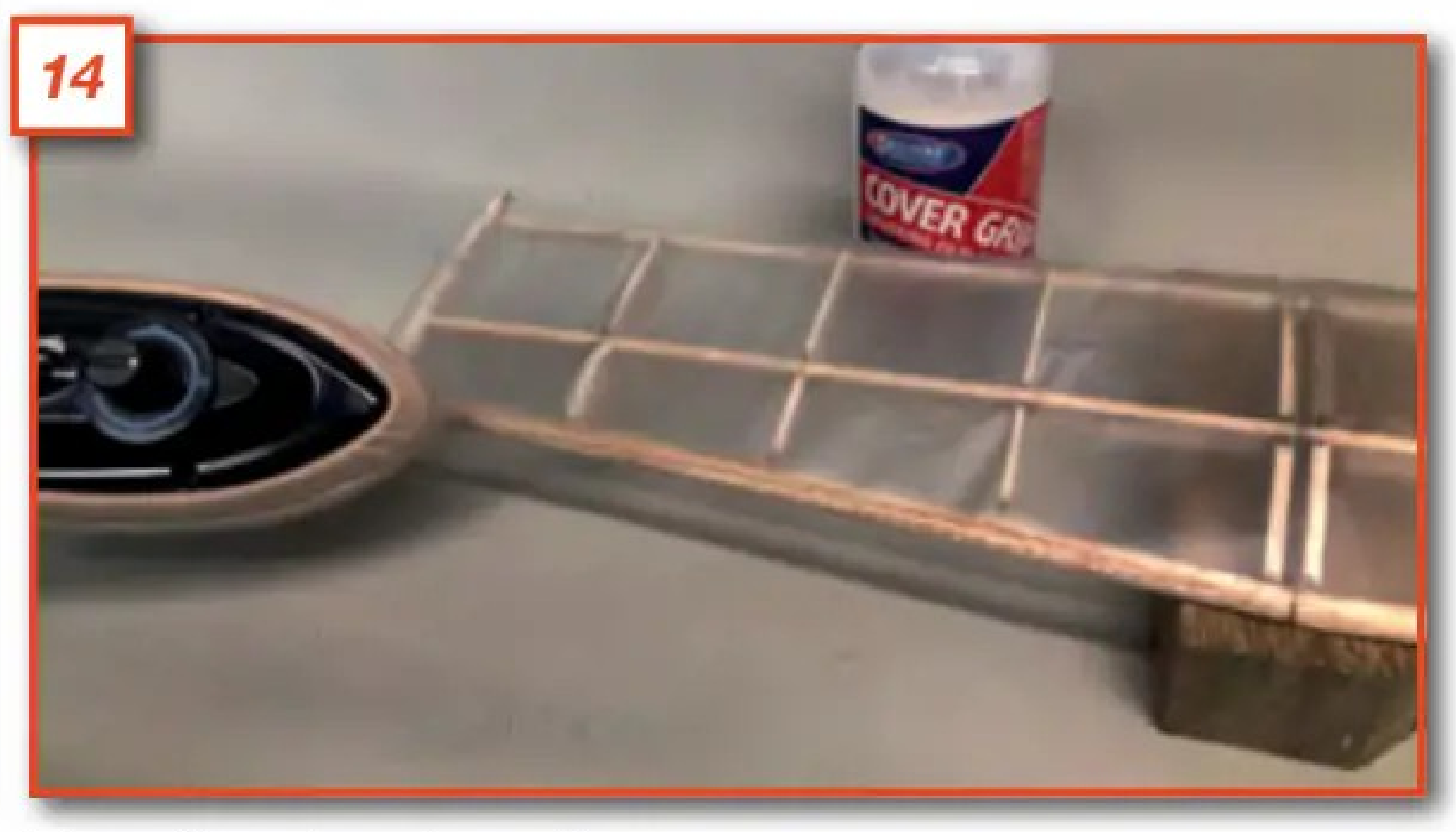
12

Late strengthening addition - epoxy carbon wing brace.

13

Preparation of balsa with CoverGrip heat sensitive glue to bond doculam.

14

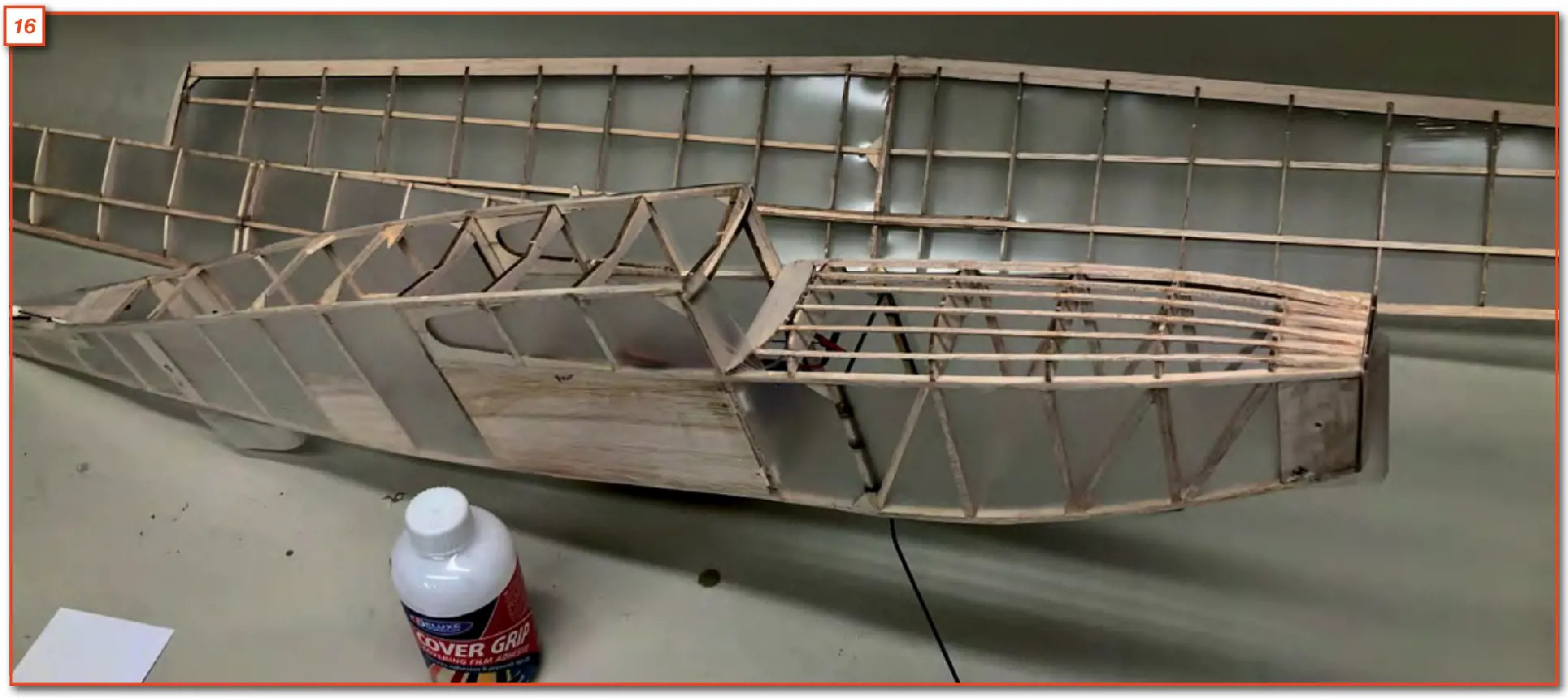


Doculam heat sealing.

15

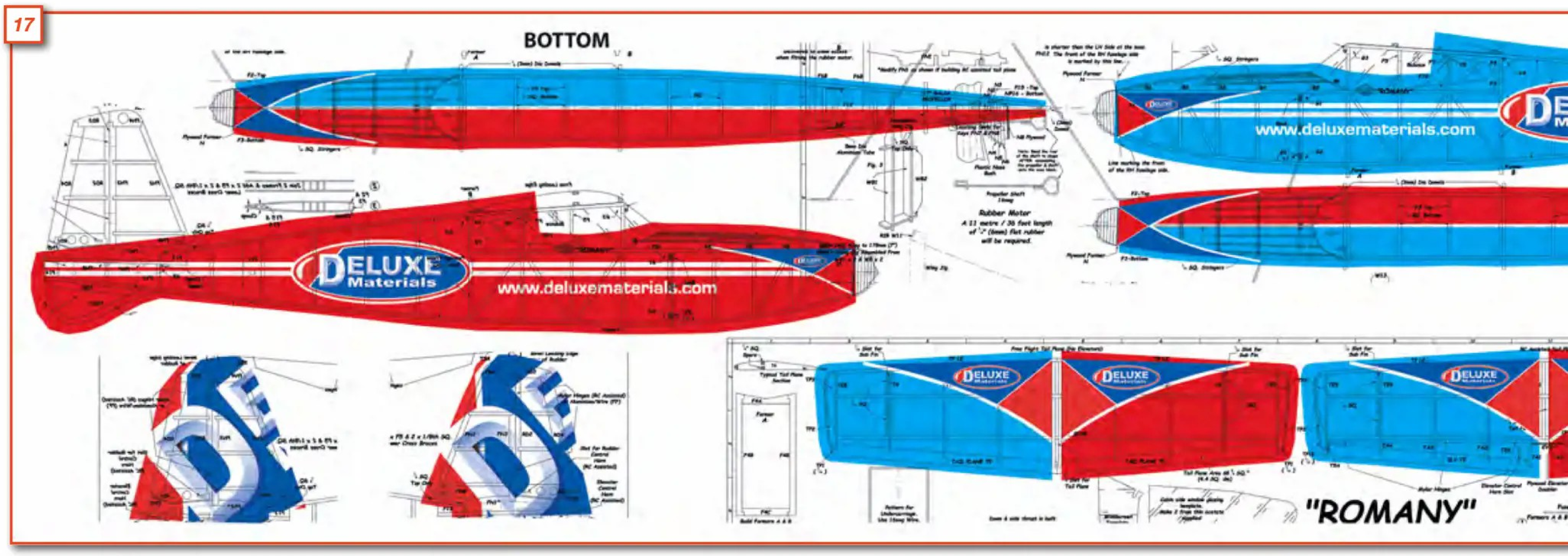
Doculam covered and heat shrunk- looks nice.

16



Doculam covered in no time.

17


BOTTOM
DELUXE Materials
www.deluxematerials.com
"ROMANY"

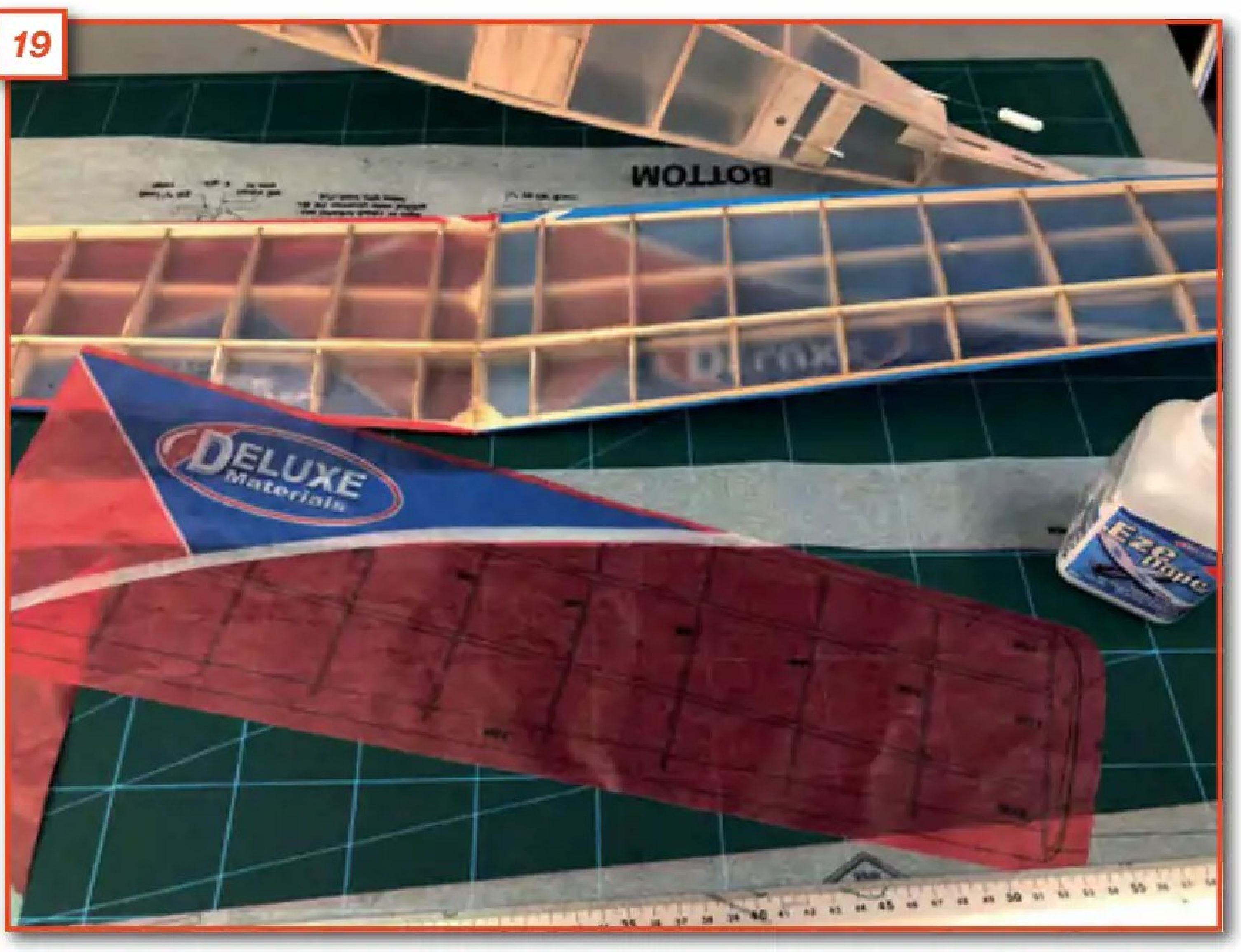
Romany colour scheme PDF.

18

Eze Dope
DELUXE Materials
www.deluxematerials.com
TOP
"ROMANY"

Printed Eze Tissue dope.

19


BOTTOM
DELUXE Materials
Eze Dope

Cut out tissue panels allowing overlap.

20

DELUXE Materials
Water

Applying water Eze Tissue sheet.

21

www.deluxematerials.com
Water

Applying water to fuselage- windows cut out later.

22

DELUXE Materials

Beautiful finish close up after water.

23

DELUXE Materials
30% Eze Dope
70% Water

Apply EzE DOPE quickly after the water; the dope being water soluble flowed through the tissue to nicely bond to the Doculam.

24

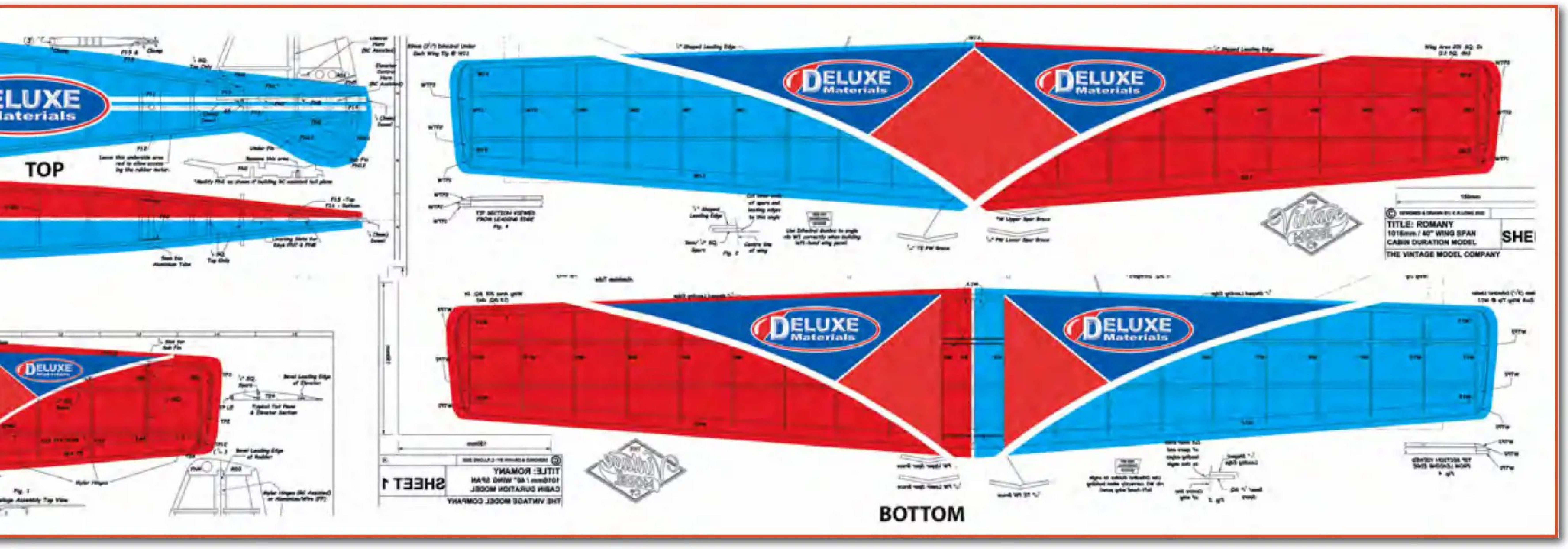
Water
"ROMANY"

And then continued with the rest of the model.

25

Water
DELUXE
Eze Dope
Vintage Model
30% Eze Dope
70% Water
"ROMANY

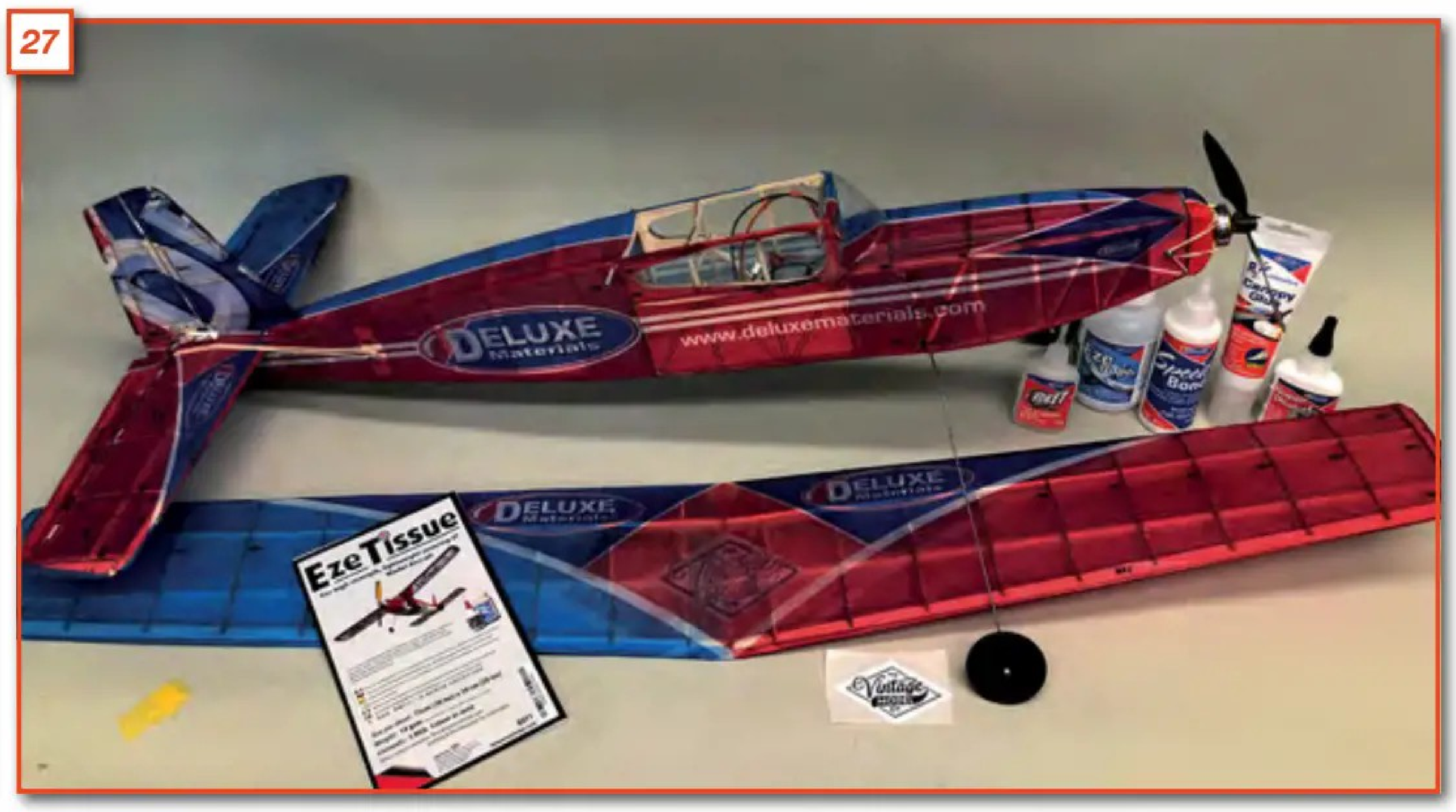
Some parts of the rest of model done.


TOP
BOTTOM
DELUXE Materials
TITLE: ROMANY
1016mm / 40" WING SPAN
CABIN DURATION MODEL
THE VINTAGE MODEL COMPANY
SHEET 1

26

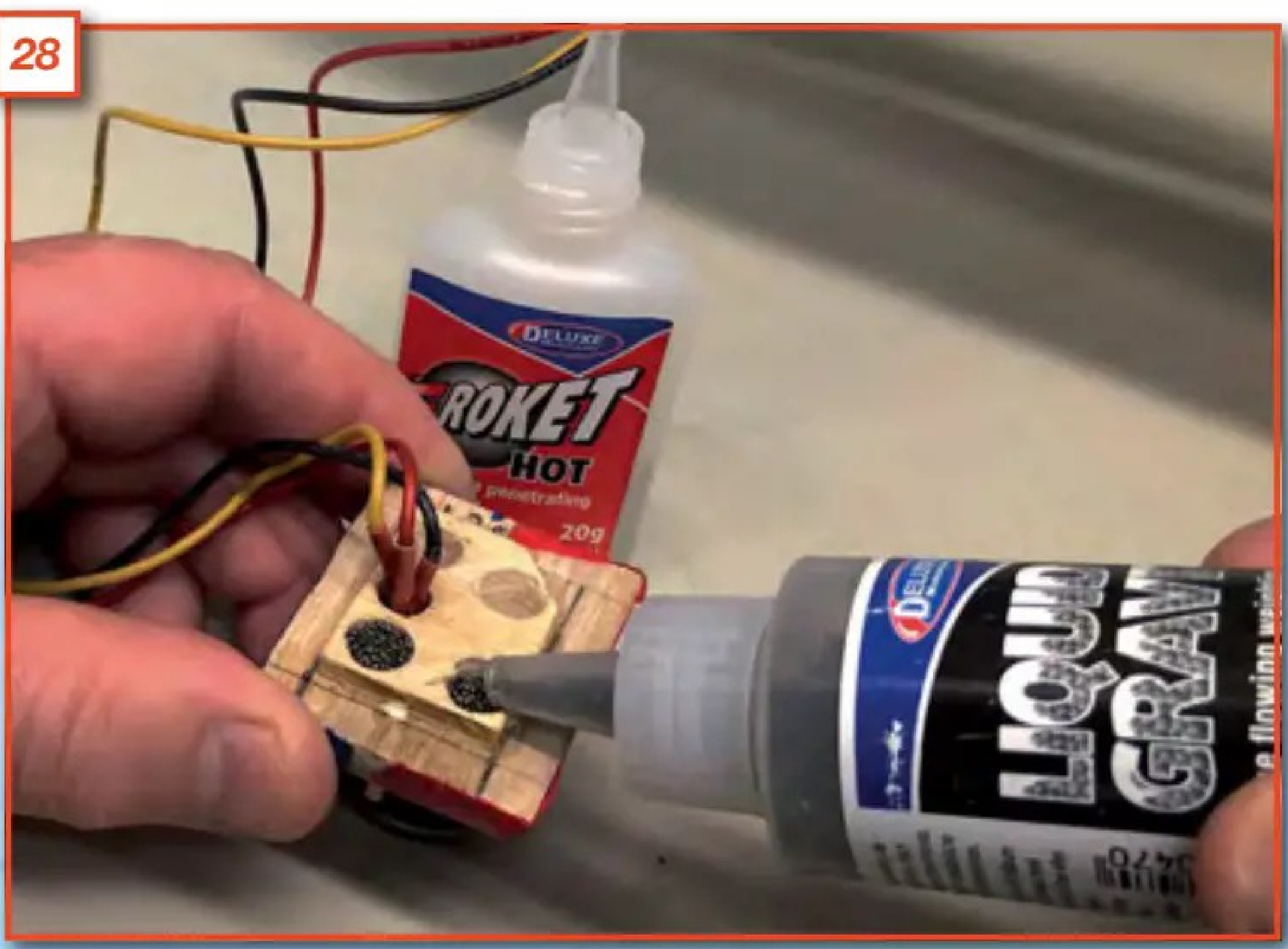
Gluing window with RC modeller Canopy Glue - dries clear and flexible, bonding plastic.

27



View of completed model.

28



Adjusted Centre of Gravity with Liquid Gravity mobile weighting system, poured into holes and set with Roket Hot.

29

The Romany weighed in at just 250g.

The author and model at the flying field.

FF STAN HORNE MEMORIAL SHIELD AND BOWDEN TROPHY

Andy Green and Andrew Boddington report on the Bowden Trophy and Stan Horne Memorial Shield competitions, held this year at the FF Nats at Sculthorpe on Sunday 24th August, and organised by members of Peterborough Model Flying Club

Over the last 7 years or so we have all suffered from the disruption of Covid and the loss of Barkston for the Nationals. These disruptions to the hobby have inevitably led to a reduction in numbers entering. However, I am glad to say that this appears to be on the mend and after a rather tentative restart of the event in 2023 and 2024, this year we had 10 entries in both events. To put this into perspective this is more than the combined entry in F1B & F1C and a similar number to those entering classes such as F1A, P30 and E36. Proving that there is still a good following to sustain the gentle art of precision flying power cabin models.

In addition to getting your model into the air within the requisite starting time and judging the engine run to suit the conditions to get your model down within the 45 sec landing target, the Bowden has its other challenges. One of these is that your model has to ROG! The runway at Sculthorpe, unfortunately, is not as smooth as Barkston so its a challenge for the smaller models. Nevertheless there were many heroic attempts and lots of ooohs and aaahs as models finally rose gracefully into the air.

The day dawned fair and after the lots were drawn for the flying order things got underway. The quality of the models entering was high and Mike Shackell immediately set the standard with his Tomboy getting a perfect score on his first round flight! Brian Lever followed with his KK Outlaw getting a good qualifying time but by this point the wind direction was moving around making ROG more of a challenge. As the wind became more fickle there were a whole serious of folks who failed to get qualifying flights until Paul Hoey managed to get his Tomboy up for just over the 30 seconds.

The second round commenced with a fresher breeze and Mike Shackell got in another good flight cementing his lead in first place overall. Charlie Jeffreys with his unusual Shove Ha'Penny pusher also managed a qualifying flight when his model eventually got off the ground just before it ran out of runway. Similarly Andrew Boddington and Ricky Bould from NZ managed qualifying flights in the second round. Ricky's was particularly satisfying as the diminutive Tom Thumb's wheels were struggling with the rough surface, but a sudden gust of wind miraculously lifted it almost from a standstill into the sky for a qualifying flight and final third placing. With Brian Lever's Outlaw finally taking the second place, and five out of the ten competitors getting qualifying flights it was an entertaining mornings flying and demonstrated what a real challenge this competition is.

Following a short break for lunch the

TOMBOY
TOMBOY
4554
AERO
OTLO
Flyer
132866
1950 - 2025

A good selection of entries at this years' Bowden.

This years' Bowden winner Mike Shackell readys for takeoff.

Mike Shackell's Tomboy takes to the air for the winning flight.

Stan Horne Memorial Shield competition was run. This Peterborough run event has simpler rules than the official Bowden and allows for hand launch and the entry of multiple models. By the afternoon the wind was getting up and so a number of competitors with smaller models opted to hand launch including yours truly whose KK Pirate very sedately handled the wind for at least one flight 2 seconds off the target time. The competition was very close though, and with the 10 second penalty imposed on hand launches for the larger models, ROG inevitably won the day with first place going to Andre Borowski's Outlaw. The only Scale entry of the day Mike Smith's Tiger Moth took second with third going to Martin Peters's Hepcat.

One of the key elements leading to the success of the event this year was the date and venue for the FF Nats was known early in the year. Getting the publicity out for such events in good time is essential, so a big thank you to the efforts of the FFTC in making this happen. Hopefully the same will be possible for 2026 so that advance notice goes out early and we can build on the number entries again next year. ■

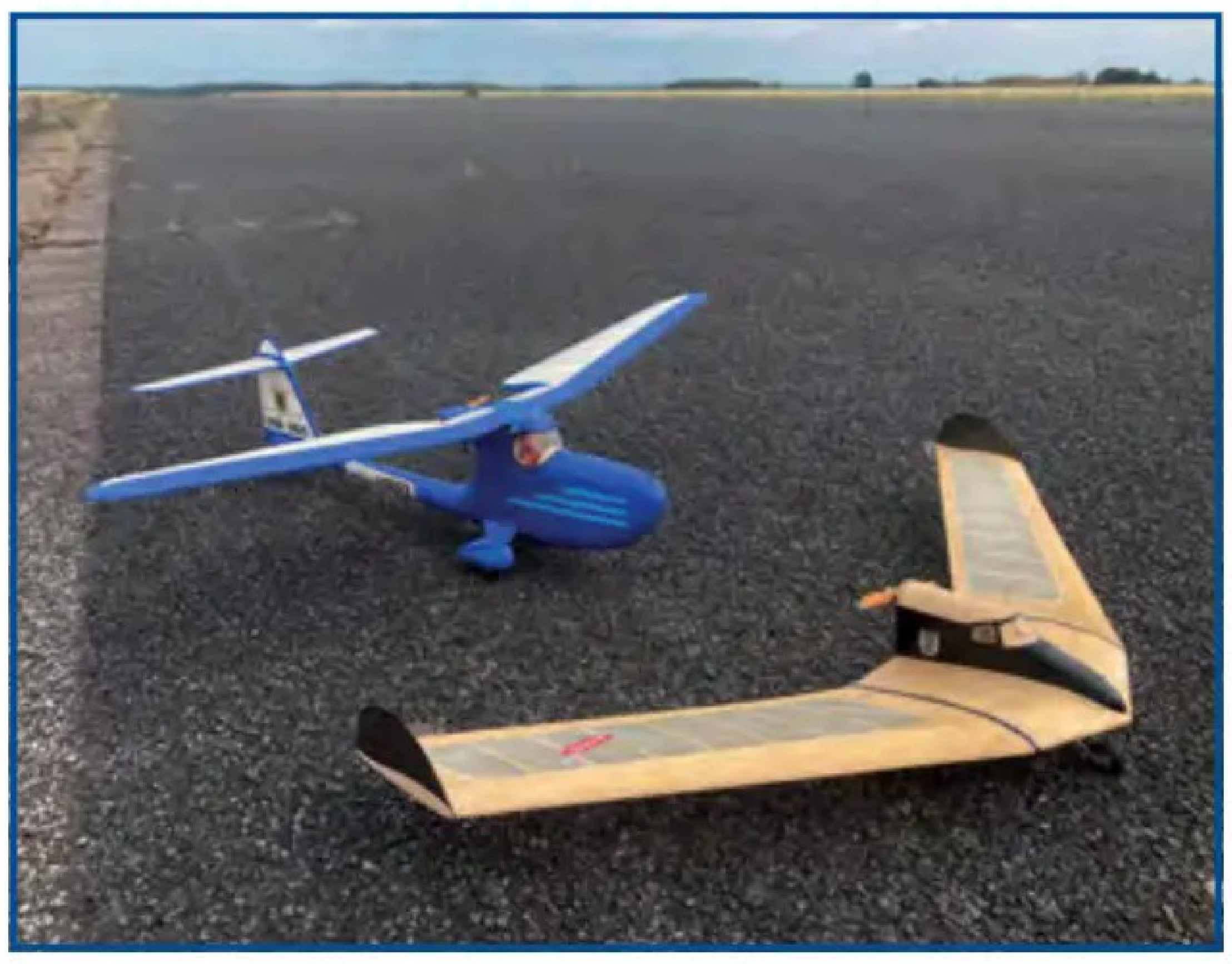
Brian Lever releases his KK Outlaw for second place.

Ricky Bould from NZ with probably the smallest model ever entered in the competition. Tom Thumb powered by Sam25 (0.25cc). Transported from NZ in the overhead locker!

Charlie Jeffreys as always with something different. Shove Ha'Penny.

Paul Hoey's nicely finished Tomboy.

Mike Smith brought a Scale flavour to the event with his very neat Tiger Moth.



Charlie Jeffreys's other model, the John Marshall Tailless, entered in the Stan Horne. Just goes to show the variety of models that are eligible. It doesn't have to be a Tomboy!

Andre Borowski releases his Outlaw for the winning flight in the Stan Horne Shield.

Martin Peters readies his Hepcat.

Andrew Boddington with his Bulldozeer and Coronet.

ANDREW BODDINGTON SHARES HIS PERSONAL EXPERIENCE OF TAKING PART IN THE BOWDEN AND STAN HORNE COMPETITIONS

For over 10 years I have been spectating and covering the Bowden Competition for AeroModeller magazine, so you would think that I would have learnt something about how to do it in that time… my results would seem to suggest otherwise. As my father (David Boddington) would have said 'I taught you all I know, and now you know nothing!'

This was my first time of entering the Bowden and Stan Horne comps, and I specifically wanted to fly models that my father had flown. The opportunity to fly sports FF models these days is a rarity in much of Britain, so the Bulldozer and Coronet vintage models I brought with me had not flown for over 15 years since Dad's passing. The idea of any meaningful preparation for the competition was limited to making sure the engines (PAW Classic and Mills 75 diesels) ran as they should.

The Bowden requires a non-pushed take-off and this proves to be one of the problems for Vintage designs in general – they often have the undercarriage wheels set well forward to protect what would have been a wooden prop 70+ years ago, which leads to 'ground-looping'. True to form the Bulldozer would circle round on release rather than tracking straight and would not get away for a first flight. I had sensibly fitted a clockwork timer fuel cutoff which is useful to ensure a close to 45 second flight for this precision event, so when I managed a take-off for my second flight I was hopeful of a score until… I remembered I hadn't tripped the timer!

In the afternoon the slightly less rigorous Stan Horne competition allows hand-launches (with a points penalty) and I at least got some flights in with both the Bulldozer and Coronet. I didn't place but had a great time thanks to the organisers Andy Green and Brian Waterland, and my fellow competitors. With double digit entries this year it would be good to think this is a resurgence for the Bowden Competition. See you next year? ■

From 2006, this photo remembers two much missed characters. This is David Boddington walking out to the Bowden competition line with the Bulldozer and was taken by Alex Whittaker.

Dad starting the PAW in the Bulldozer assisted by another much missed modeller, Ken Swailes. *(Photo by Alex Whittaker).*

Andrew Boddington with the Bulldozer and Coronet on the massive expanse of the Sculthorpe main runway. A lovely place to fly FF. *(Photo by Polly Hewett).*

BOWDEN RESULTS

Name	Model - Engine	Points	Position
Mike Sheckell	Tomboy - PAW	192	1
Brian Lever	KK Outlaw - Mills	89	2
Ricky Bould	Tom Thumb - Sam25	88	3
Charlie Jeffreys	Push Ha'Penny - Mills	87	4
Paul Hoey	Tomboy - Mills	85	5
Martin Peters	Hepcat - PAW	DNQ	-
Brian Waterland	Veron Deacon - Mills	DNQ	-
Andrew Boddington	Bulldozer - Mills	DNQ	-
Mike Smith	Tiger Moth – DC Merlin	DNQ	-
Andre Borowski	KK Outlaw - Mills	DNQ	-

STAN HORNE MEMORIAL SHIELD RESULTS

Name	Model - Engine	Least diff. from target time in secs	Position	
Andrew Borowski	KK Outlaw - Mills	9	1	
Mike Smith	Tiger Moth – DC Merlin	12	2	*(2 qualifying flights)*
Martin Peters	Hepcat - PAW	12	3	*(1 qualifying flight)*
Andrew Green	KK Pirate - Sam35	12	4	*(hand launched)*
Andrew Boddington	Bulldozer - Mills	17	5	*(hand launched)*
Mike Shackell	Tomboy - PAW	DNQ	-	
Charlie Jeffreys	John Marshall Tailless - Mills	DNQ	-	
Ricky Bould	Tom Thumb - Sam25	DNQ	-	
Brian Lever	Lola - Mills	DNQ	-	
Andrew Boddington	Coronet - Mills	DNQ	-	

AIRBRUSHES.com

EXCLUSIVE UK Distributor for Iwata & Sparmax.
Trade Enquiries Welcome!

iwata

Eclipse CS Airbrush

Iwata Eclipse HP-CS JAPAN

IW-ECL-CS

HIGH QUALITY ★★★★★ OUR TOP PICK OF THE MONTH HIGH QUALITY

Known for its Versatility, Range and Ease of Maintenance!

SPARMAX®

620X Compressor

HIGH QUALITY ★★★★★ PRODUCT OF THE MONTH HIGH QUALITY

C-TC-620X

Powerful. Automatic. 2.5L air tank. Ample power for any airbrushing task!

www.Airbrushes.com 01903 767800 sales@airbrushes.com
The Airbrush Company Ltd. 79 Marlborough Road, Lancing Business Park, BN15 8UF

GodHand LIQUID PIGMENTS THE ARMY PAINTER™ LIFECOLOR ACRYLIC HOBBY COLORS MODEL CRAFT

AEROMODELLER 90TH ANNIVERSARY

WE HAVE FINALLY ARRIVED AT THE ACTUAL 90TH ANNIVERSARY OF AEROMODELLER MAGAZINE. THE FIRST ISSUE OF THE MAGAZINE WAS THE NOVEMBER 1935 ISSUE, SINCE THEN THERE HAVE BEEN 1062 ISSUES OF THE MAGAZINE.

During the last 90 years there have been many momentous changes and innovations in aeromodelling. To properly cover all of the historic changes would take an entire issue of the magazine, so here is a summary of some of the more major historic milestones that have occurred.

In 1935 all model flying was basically Free Flight, including competition and general sport flying. In Britain, this would remain the case until the late 1940s when Ron Moulton introduced Control Line flying to Britain from its origins in the USA.

The first Radio Control systems started to appear in the 1950s. As the much missed Trevor Waters recounted in the November and December 2024 issues of AeroModeller the early RC systems were very expensive, heavy, and unreliable. They gradually developed through single channel 'reed' systems, becoming smaller and more reliable, until the advent of multi channel proportional Radio Control in the 1960s and 1970s.

Inevitably, the rise of reliable and more affordable multi channel Radio Control systems led to a gradual decrease in the number of Free Flight and Control Line flyers.

During the 1960s Indoor flying grew in popularity, with competition duration Indoor contests seeing a dramatic rise in performance with the introduction of materials such as microfilm covering, now it was possible to build incredibly lightweight and slow flying Indoor duration models.

As we look forward to what the future of aeromodelling holds for all of us, I thought it would be interesting and appropriate to ask 'AI' what the major milestones in British Model aircraft flying have been since 1935. What it came up with is quite interesting, albeit with one glaring error in stating that the Society of Model Aeronautical Engineers (SMAE) was founded in 1935, whereas in fact it was formed in 1922. That aside though, the rest of the 'AI' derived history of British Model Flying is actually quite interesting.

So I asked Chat GPT 'What are the major milestones in British Model Aircraft flying since 1935?'

CHATGPT SAID:

Here's a clear timeline of the major milestones in British model aircraft flying since 1935, covering Free Flight, Control Line, Radio Control, and broader cultural/technological developments:

1930S (PRE-WAR FOUNDATIONS)

- 1935 – Formation of the Society of Model Aeronautical Engineers (SMAE), which became the governing body for model flying in the UK (now the British Model Flying Association – BMFA).
- Growth of Free Flight models, powered by rubber, gliders, and early internal combustion engines (spark ignition).

1940S (WAR & RECOVERY)

- Model flying slowed during WWII, though aeromodelling skills were encouraged for training in aeronautical engineering.
- Late 1940s – Post-war revival with new lightweight materials (balsa from US wartime surplus).
- Glow plug engines (introduced ~1948) revolutionised power models, being smaller, more reliable, and easier to use than spark ignition engines.

1950S (CONTROL LINE & EARLY RADIO)

- Control Line flying becomes hugely popular in Britain – Aerobatics, Speed, Combat and Team Racing flourish.
- Free Flight competitions expand, with high-performance gliders and power models.
- Early Radio Control (R/C) experiments: large single-channel sets (rudder only), using vacuum tube transmitters and heavy onboard gear.

1960S (RADIO CONTROL BREAKTHROUGH)

- Transistorised radios replace valves, making equipment smaller and lighter.
- Development of multi-channel proportional control (rudder, elevator, throttle, aileron), enabling realistic flight of scale models.
- British modellers begin competing strongly internationally in RC categories.

1970S (MAINSTREAM RC)

- Radio Control becomes the dominant branch of model flying in Britain.
- R/C Aeobatics, Thermal Soaring (gliders), and Scale flying see big growth.
- Control Line and Free Flight remain strong but begin to decline in popularity.

1980S (HIGH-TECH MATERIALS & COMPETITIONS)

- Widespread use of fibreglass and carbon fibre in airframes.
- Introduction of computerised radio transmitters with programmable mixes and memory.
- British teams gain prominence in international FAI competitions (e.g., F1C power Free Flight, RC Aerobatics).

1990S (ELECTRIC FLIGHT & INDOOR FLYING)

- Emergence of electric-powered models (initially NiCad batteries, brushed motors).
- Growth of indoor flying, using lightweight structures and new power sources.
- Continued development of large-scale RC models and jets powered by ducted fans and early turbines.

2000S (TURBINES & DIGITAL TECH)

- Turbine-powered jet models become established and popular in the UK.
- Lithium polymer (LiPo) batteries and brushless motors revolutionise electric flight: longer duration, more power, lighter weight.
- Explosion of 3D aerobatics and large electric gliders.

2010S (FPV & DRONES)

- Rise of First-Person View (FPV) flying with cameras and goggles.
- Quadcopters/drones enter the hobby mainstream and public awareness.
- BMFA plays a role in representing model fliers in regulatory discussions as drones raise safety and airspace issues.

2020S (REGULATION & INNOVATION)

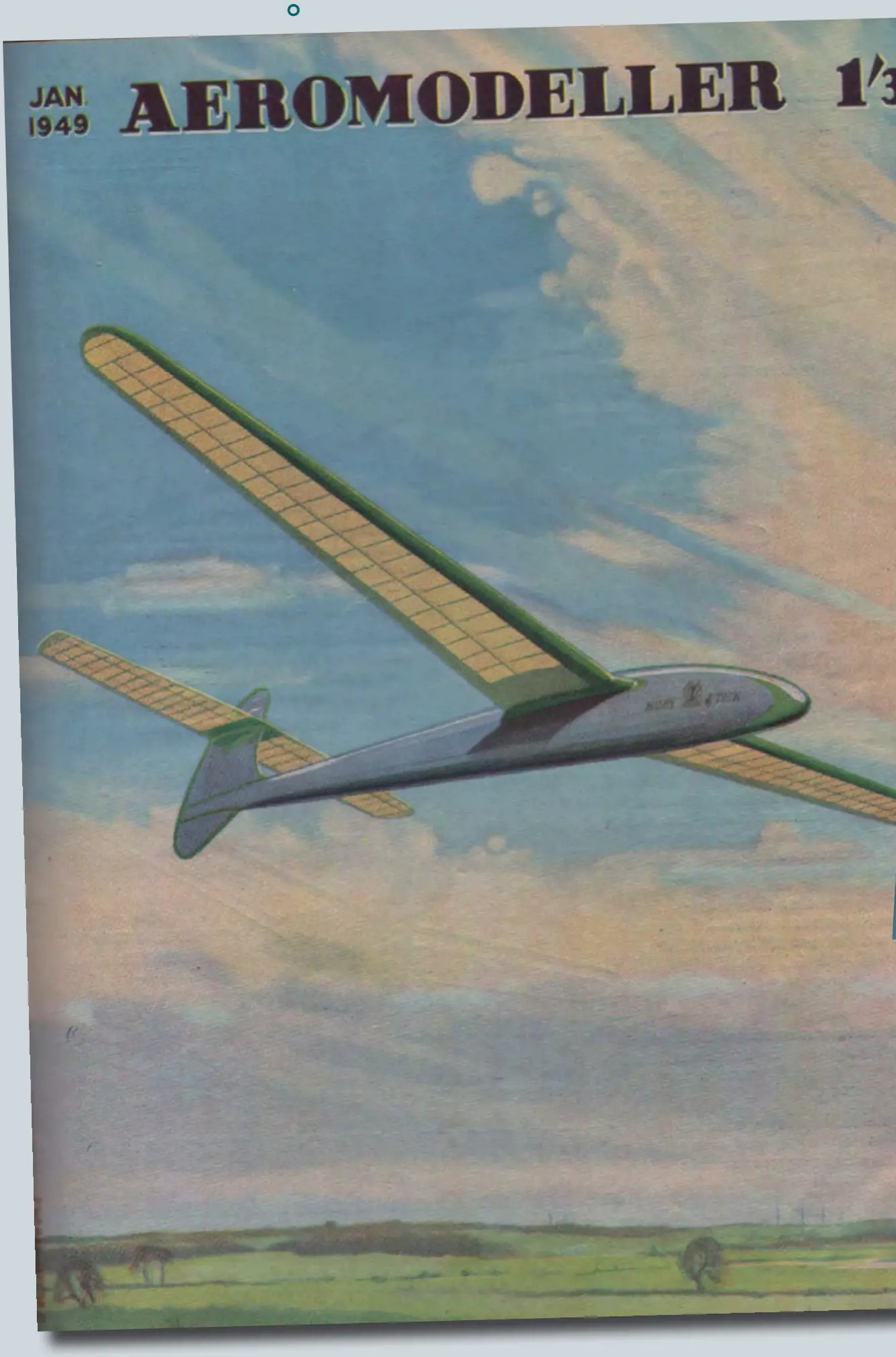
- Implementation of UK drone regulations under the CAA (affecting both drones and traditional model flying).
- BMFA secures recognition of model flying as distinct from consumer drone use.
- Continued growth of electric flight, 3D printing in model design, and heritage flying (scale replicas of historic aircraft).

IN SUMMARY:

- 1935–50s - Free Flight & Control Line dominance.
- 1960s–70s - Radio Control revolution.
- 1980s–90s - High-tech materials, electric flight emerges.
- 2000s–present - Turbines, LiPos, drones, FPV, and increasing regulation.

So let's celebrate 90 years of our favourite magazine, and who knows what the future of aeromodelling will bring. And to sign off the AeroModeller 90th Anniversary articles, here are a few examples of how the front cover art of AeroModeller has developed down the years. ■

The January 1949 front cover featured a painting of the elegant 'Moby Dick' Free Flight sailplane that was described in that issue.



JAN. 1949 AEROMODELLER 1/3

AERO MOD

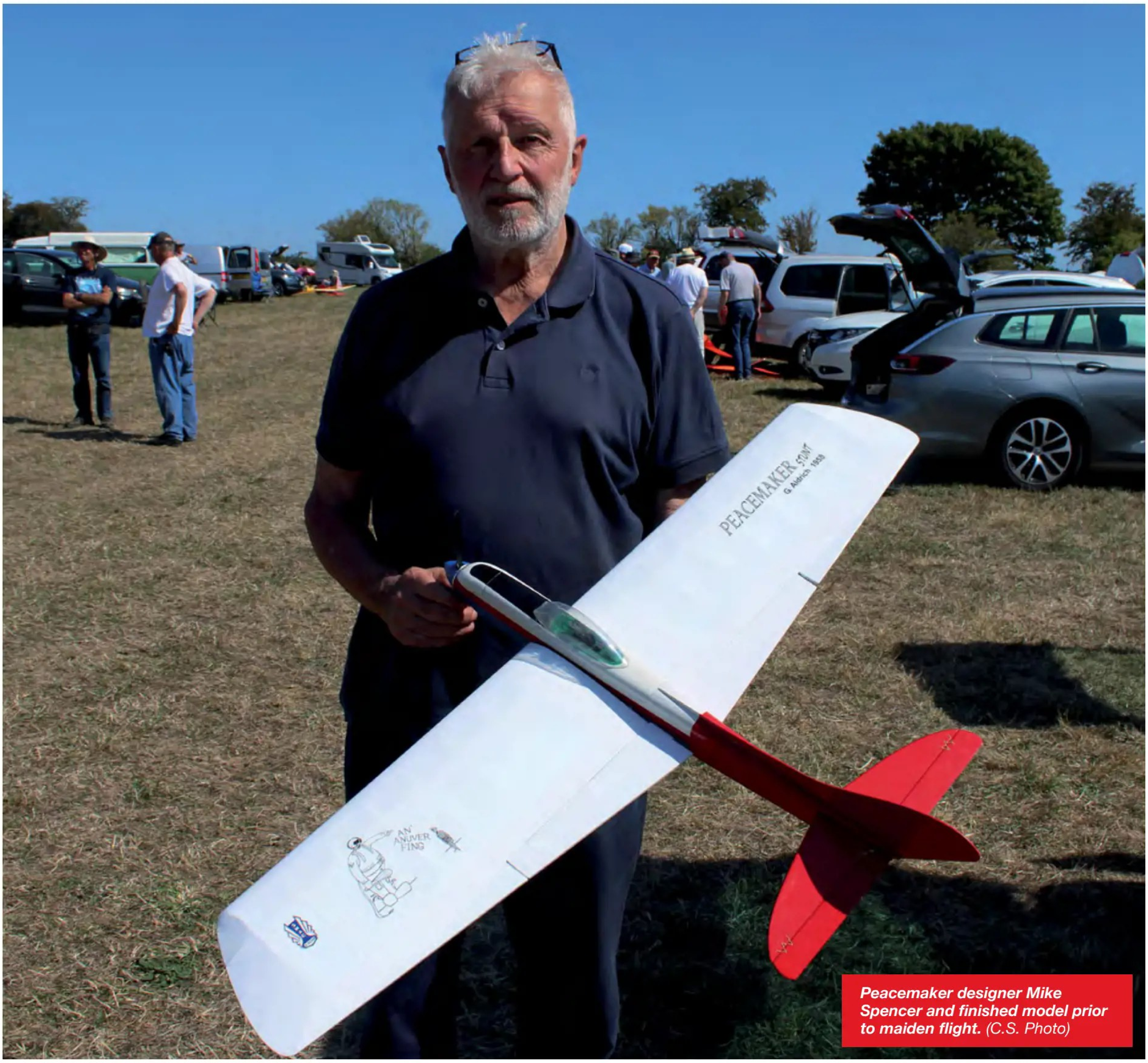
TWO NATIONAL CONTEST WINNERS ● BILL HENDE
JETEX 'VINDSKREENVIPER' ● PETE WYATT'S F/S '
PLUS THE A/2 OF THE YEAR, RAY MONK'S 'Q
● SOLIDS ● GEODETICS ● NEW CONSTRUCTION F

The March 1952 front cover showed a group of enthusiastic young aeromodellers carefully watching a scale model of an English Electric Wren.

MARCH, 1952
ELLER
ERSON'S
WREN'
UICKIE'
EATURE
1'6

The April 1975 front cover featured a photograph of a modeller from New Zealand about to launch the scale model of a Sikorsky Kingfisher.

April 1975
25p
USA & Canada $1·25
Aero
Modeller
INCORPORATING
MODEL AIRCRAFT
MAP
HOBBY MAGAZINE
KANIA 3
PLANS FEATURE
WAKEFIELD
DEVELOPMENTS



Peacemaker designer Mike Spencer and finished model prior to maiden flight. *(C.S. Photo)*

PEACEMAKER

42” RC CONVERSION

MIKE SPENCER HAS TAKEN GEORGE ALDRICH’S ORIGINAL 1950S CLASSIC ‘PEACEMAKER’ CONTROL LINE STUNT MODEL, AND HAS BROUGHT IT UP TO DATE BY CONVERTING IT INTO A RC STUNT MODEL. IT IS PRESENTED HERE AS AN AEROMODELLER PLAN FEATURE, RATHER THAN A NORMAL AEROMODELLER FREE PLAN.

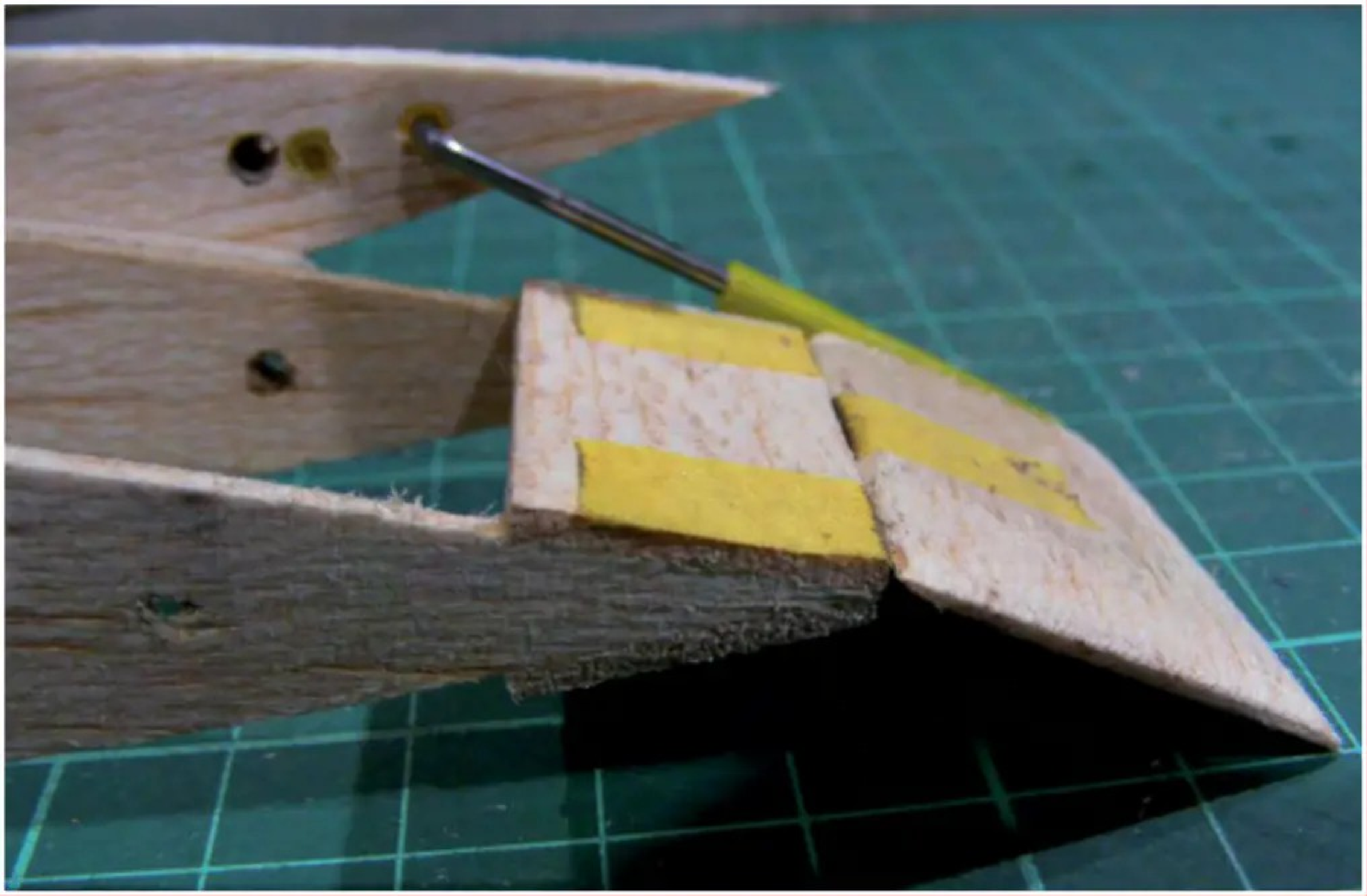
There are many elegant designs from the early Control Line world that make attractive subjects for RC conversion. However, a frequent comment is that their typically short tail moment arm might promote Pitch instability when flown by Radio. My first such project, a twice size (24") T-Tray, was a real pig that needed many trimming tweaks before (relatively) stable flight and repeatable hand launch was achieved. However, the more conventional layout of Henri Stouff's BLUE PANTS proved to be very agile and pitch stable at all speeds, despite its alarmingly short fuselage. Nevertheless, I had reduced its huge elevator by moving the hinge line 12mm to the rear while retaining the plan's outline. Later conversions of RASCAL and KK SPECTRE have also shown benign handling characteristics.

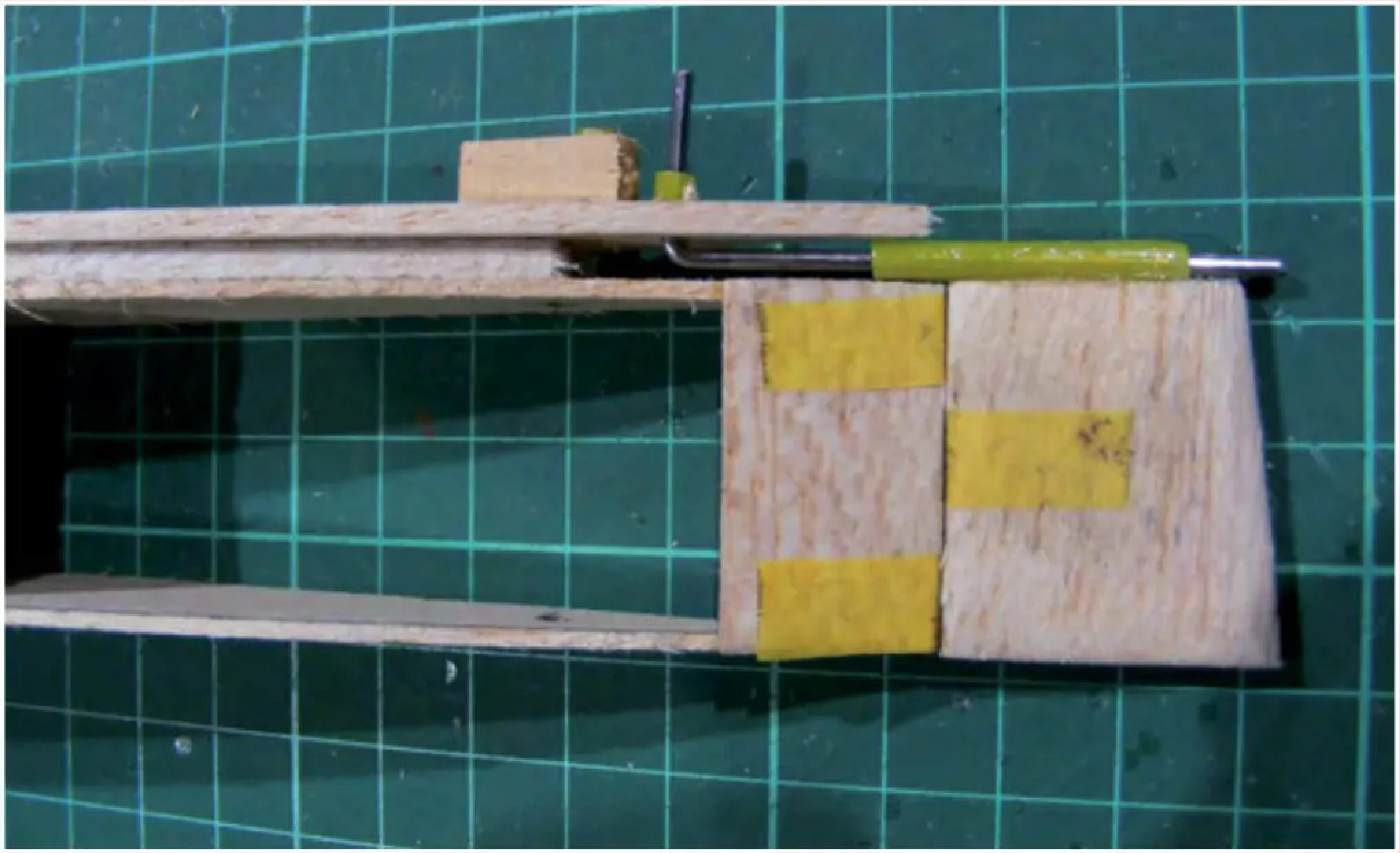
I recently discovered George Aldrich's classic PEACEMAKER with a built-up rather than the more familiar profile fuselage that I had flown in circles way back in my school days. This 1960s nostalgia trip immediately enthused me for another conversion project. Construction started in August 2024 by importing the Outerzone plan to my 2D CAD programme: ***https://outerzone.co.uk/plan_details.asp?ID=6455***

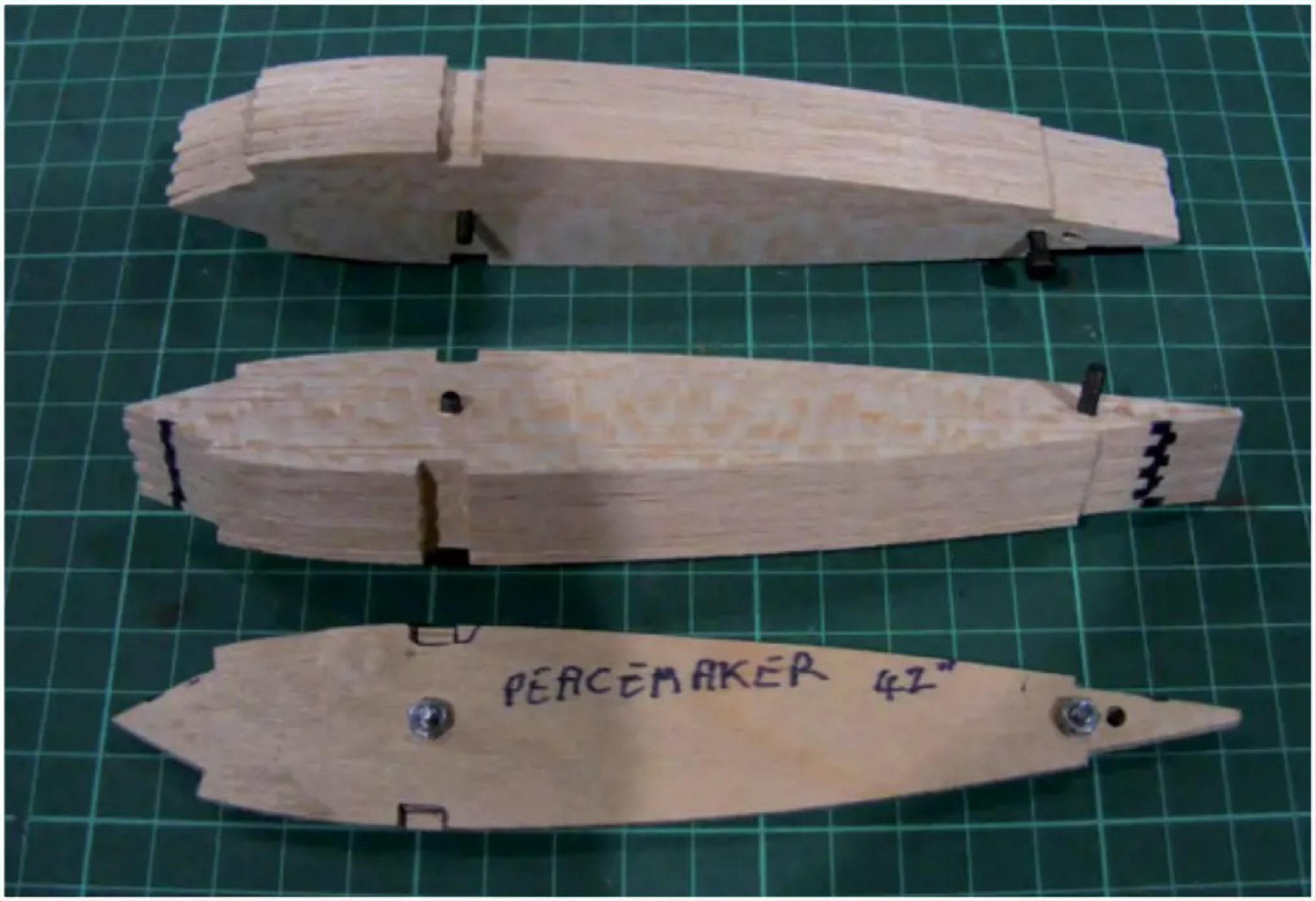
With an estimated AUW of 26 Ounces, the power setups used in previous CL conversions should work well at the 42" span of the original design; my Wing Loading/Watts per Pound Spreadsheet confirmed that as a realistic forecast.

Just to explore an unfamiliar assembly method, I retained the original plan's 'egg box' wing construction but with separate left and right wings for further development of wing twist control as used on my RASCAL (described in AeroModeller, Feb 2023). A feature of many converted CL designs is that their straight wings can look slightly odd giving the illusion of anhedral when flying under RC. To mask that characteristic I decided to include a hint of dihedral this time. Using through-fuselage carbon rods for the pivot arrangements left welcome space for RC gear in the otherwise slim fuselage.

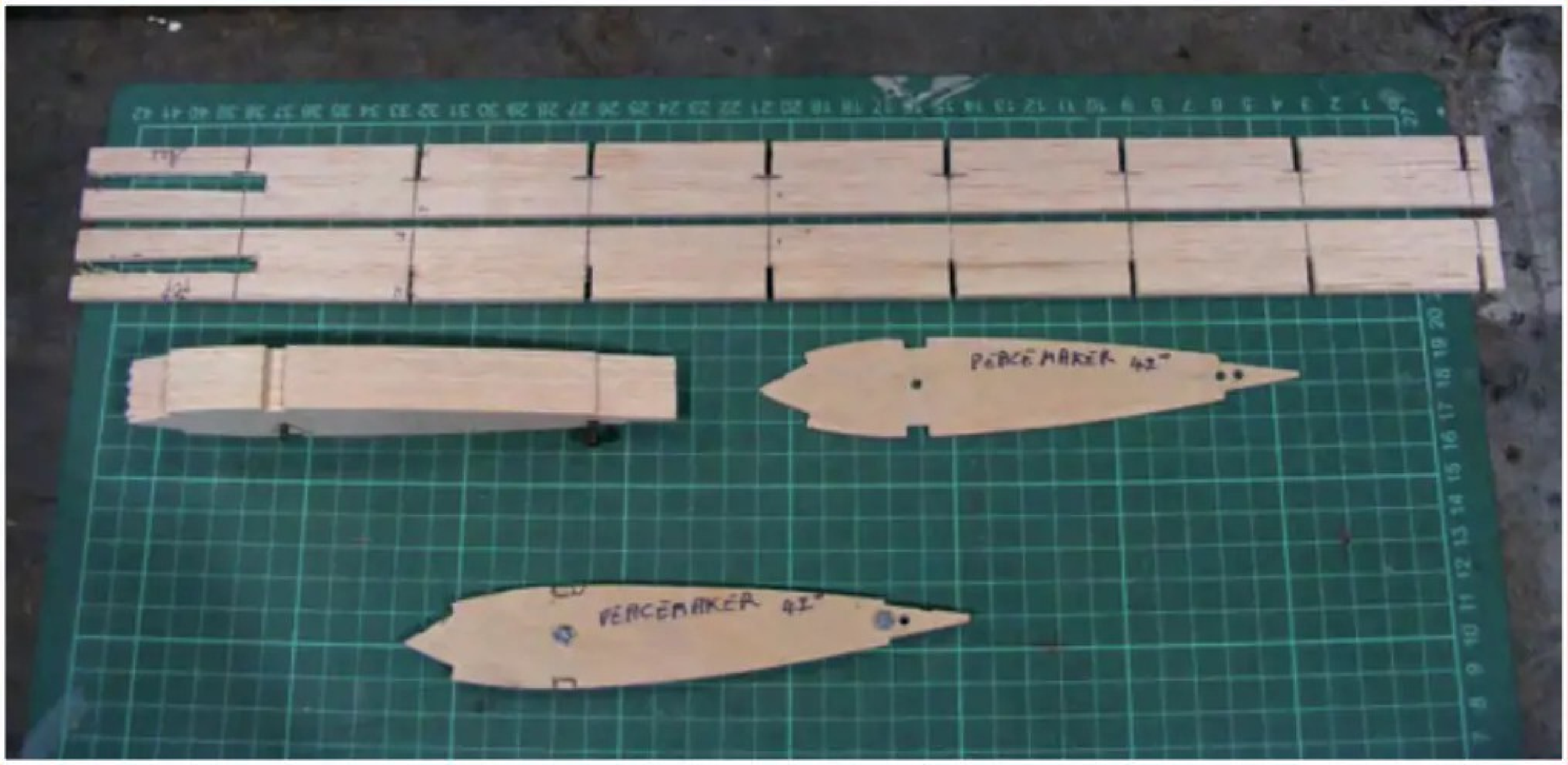
Ribs were conventionally 'sandwich-cut' from 3/32" Balsa between 1.5mm Ply templates. The 1/8" Balsa full-depth Spars were later capped with 1/8" x 1/4"


'Flaperon' proof mechanism, moving Tab driven by 'L' shaped wire sliding in fixed tube when TE moves up/down. *(M.S. Photo).*

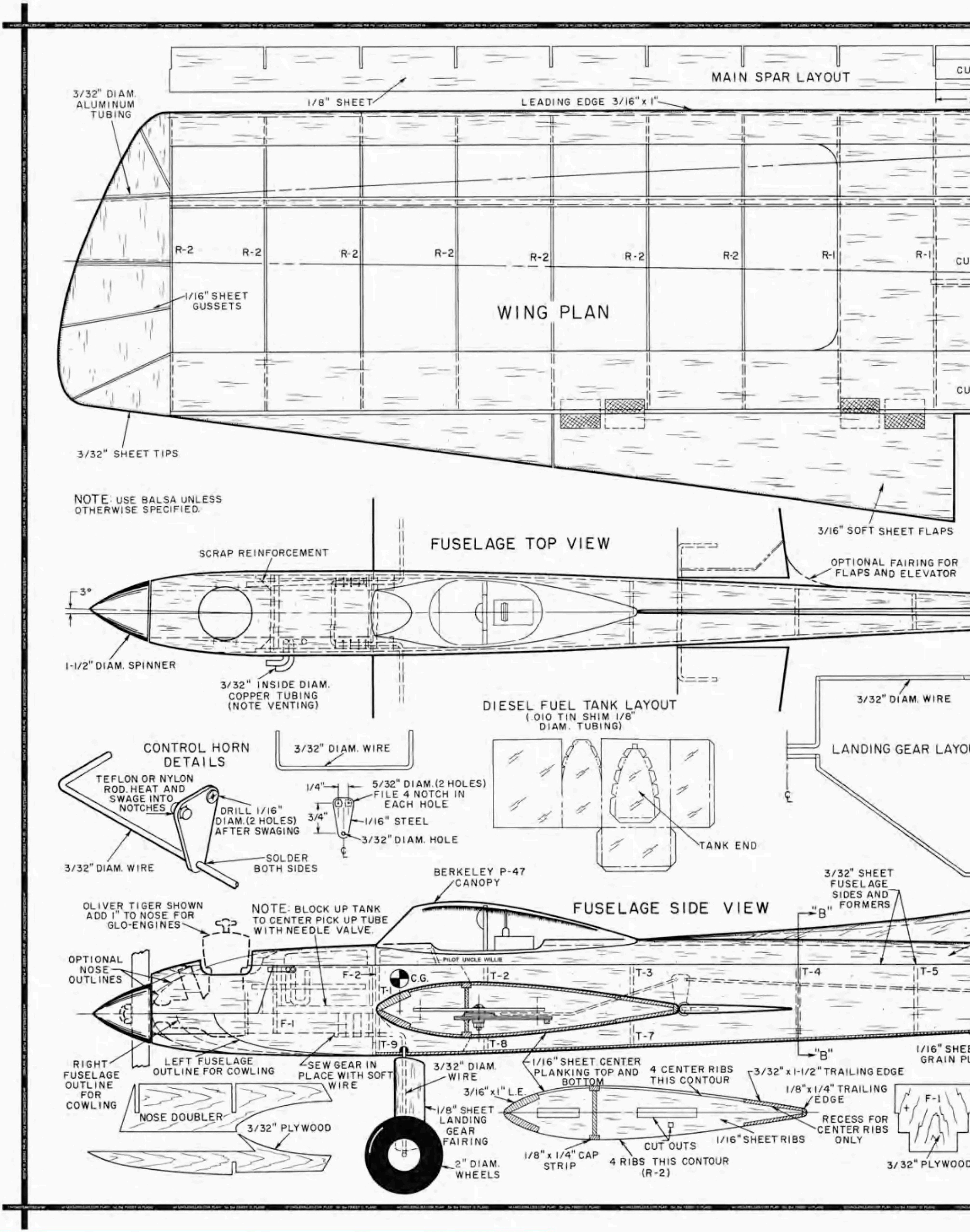

'Flaperon' proof mechanism. *(M.S. Photo).*



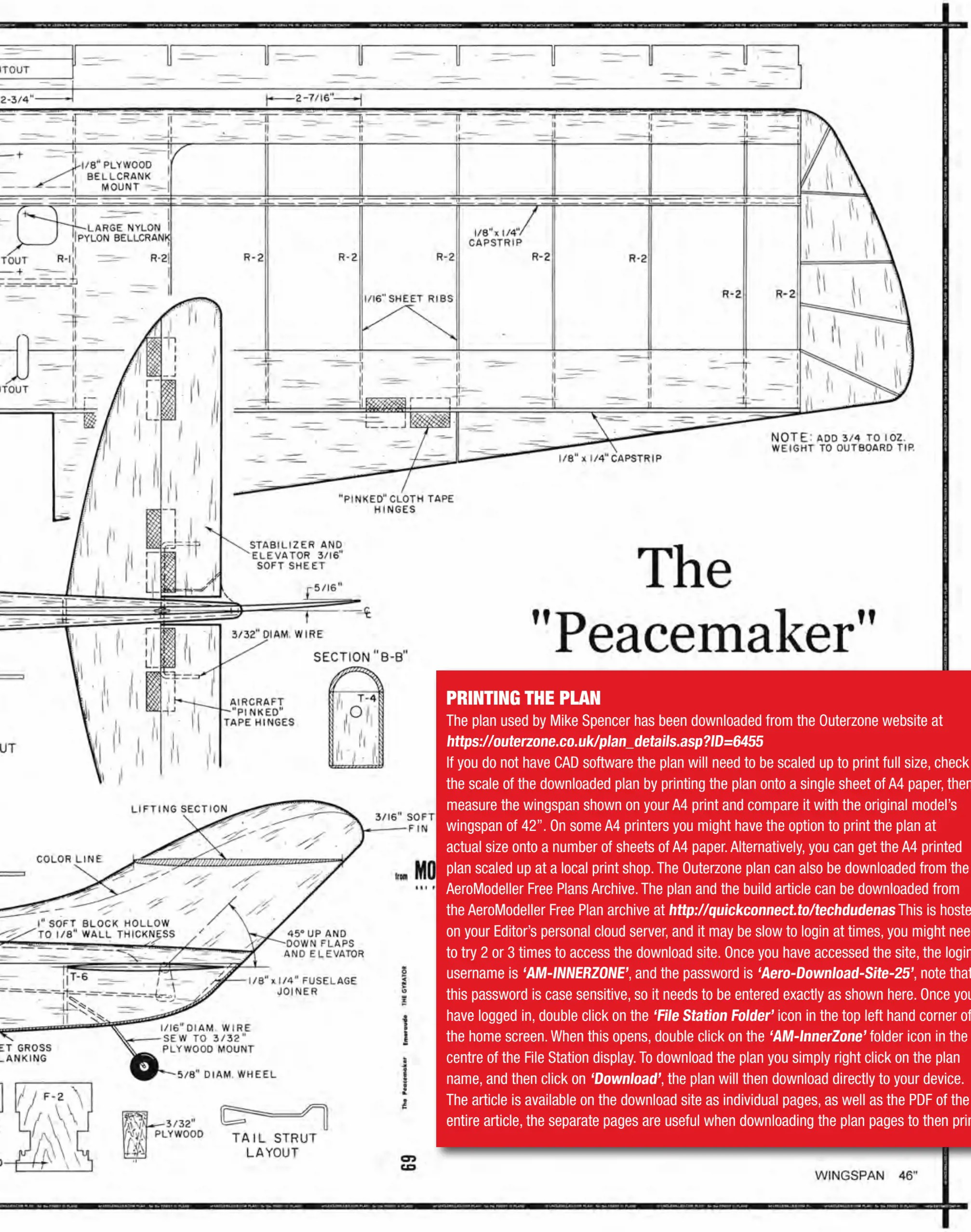
Rib stack, 'Sandwich' cut. *(M.S. Photo).*



Main Spar. *(M.S. Photo).*


MAIN SPAR LAYOUT
1/8" SHEET
LEADING EDGE 3/16" x 1"
3/32" DIAM. ALUMINUM TUBING
R-2
R-2
R-2
R-2
R-2
R-2
R-2
R-1
R-1
1/16" SHEET GUSSETS
WING PLAN
3/32" SHEET TIPS
NOTE: USE BALSA UNLESS OTHERWISE SPECIFIED.
3/16" SOFT SHEET FLAPS
FUSELAGE TOP VIEW
SCRAP REINFORCEMENT
OPTIONAL FAIRING FOR FLAPS AND ELEVATOR
3°
1-1/2" DIAM. SPINNER
3/32" INSIDE DIAM. COPPER TUBING (NOTE VENTING)
DIESEL FUEL TANK LAYOUT
(.010 TIN SHIM 1/8" DIAM. TUBING)
3/32" DIAM. WIRE
LANDING GEAR LAYOU
CONTROL HORN DETAILS
3/32" DIAM. WIRE
TEFLON OR NYLON ROD. HEAT AND SWAGE INTO NOTCHES
DRILL 1/16" DIAM. (2 HOLES) AFTER SWAGING
1/4"
5/32" DIAM. (2 HOLES) FILE 4 NOTCH IN EACH HOLE
3/4"
1/16" STEEL
3/32" DIAM. HOLE
TANK END
3/32" DIAM. WIRE
SOLDER BOTH SIDES
BERKELEY P-47 CANOPY
3/32" SHEET FUSELAGE SIDES AND FORMERS
OLIVER TIGER SHOWN ADD 1" TO NOSE FOR GLO-ENGINES
NOTE: BLOCK UP TANK TO CENTER PICK UP TUBE WITH NEEDLE VALVE.
FUSELAGE SIDE VIEW
"B"
OPTIONAL NOSE OUTLINES
PILOT UNCLE WILLIE
F-2
C.G.
T-1
T-2
T-3
T-4
T-5
F-1
T-9
T-8
T-7
"B"
RIGHT FUSELAGE OUTLINE FOR COWLING
LEFT FUSELAGE OUTLINE FOR COWLING
SEW GEAR IN PLACE WITH SOFT WIRE
3/32" DIAM. WIRE
1/16" SHEET CENTER PLANKING TOP AND BOTTOM
4 CENTER RIBS THIS CONTOUR
3/32" x 1-1/2" TRAILING EDGE
1/16" SHEE GRAIN PL
3/16" x 1" L.E.
1/8" x 1/4" TRAILING EDGE
F-1
NOSE DOUBLER
3/32" PLYWOOD
1/8" SHEET LANDING GEAR FAIRING
RECESS FOR CENTER RIBS ONLY
CUT OUTS
1/16" SHEET RIBS
1/8" x 1/4" CAP STRIP
4 RIBS THIS CONTOUR (R-2)
2" DIAM. WHEELS
3/32" PLYWOOD

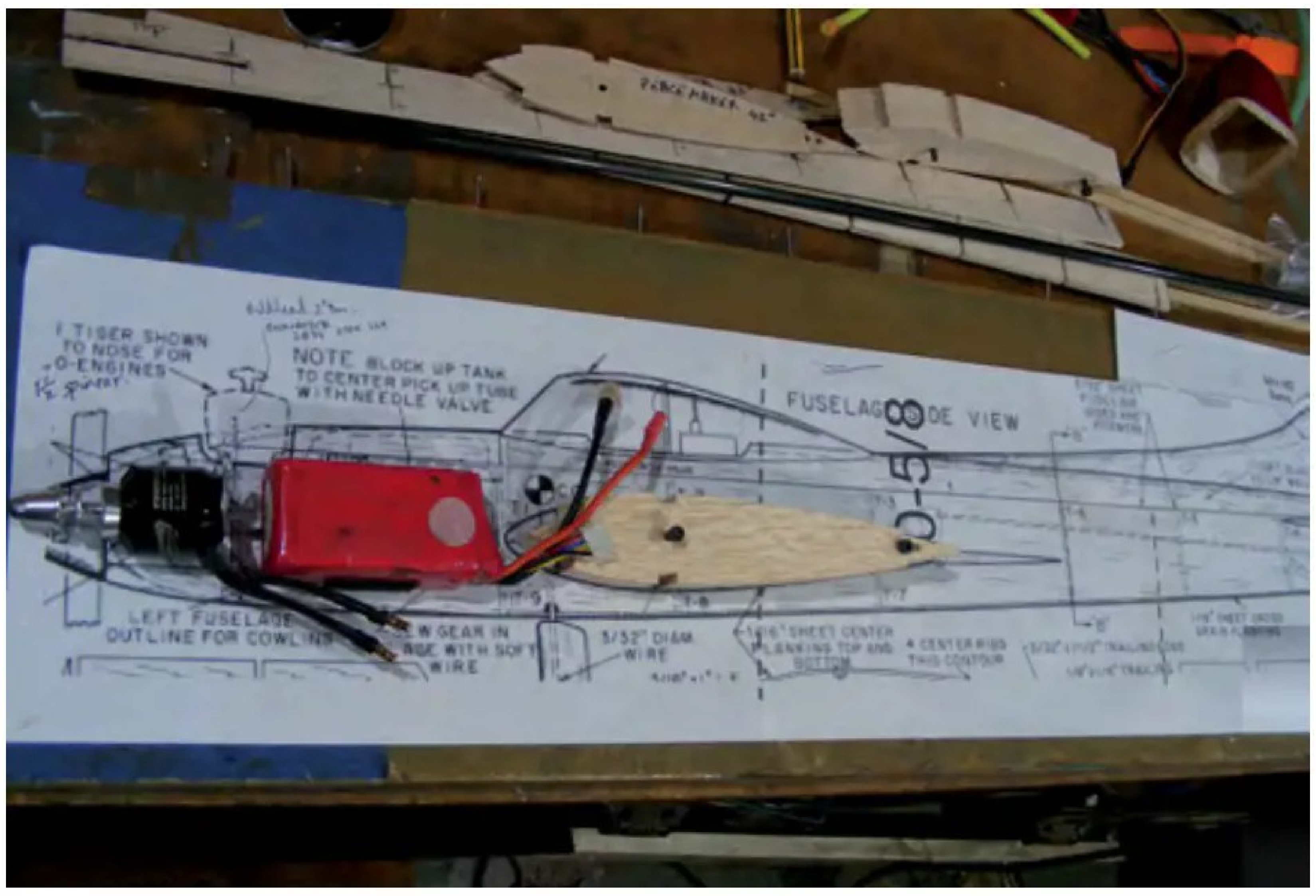
The original CL version of the Peacemaker, as downloaded from Outerzone by Mike Spencer.


TOUT
2-3/4"
2-7/16"
1/8" PLYWOOD BELLCRANK MOUNT
LARGE NYLON PYLON BELLCRANK
TOUT
R-1
R-2
R-2
R-2
R-2
R-2
R-2
R-2
R-2
1/8" x 1/4" CAPSTRIP
1/16" SHEET RIBS
TOUT
NOTE: ADD 3/4 TO 1 OZ. WEIGHT TO OUTBOARD TIP.
1/8" x 1/4" CAPSTRIP
"PINKED" CLOTH TAPE HINGES
STABILIZER AND ELEVATOR 3/16" SOFT SHEET
5/16"
℄
3/32" DIAM. WIRE
SECTION "B-B"
T-4
AIRCRAFT "PINKED" TAPE HINGES
UT
The "Peacemaker"
LIFTING SECTION
3/16" SOFT FIN
COLOR LINE
1" SOFT BLOCK HOLLOW TO 1/8" WALL THICKNESS
45° UP AND DOWN FLAPS AND ELEVATOR
T-6
1/8" x 1/4" FUSELAGE JOINER
1/16" DIAM. WIRE SEW TO 3/32" PLYWOOD MOUNT
ET GROSS
LANKING
5/8" DIAM. WHEEL
F-2
3/32" PLYWOOD
TAIL STRUT LAYOUT
from MO
The Peacemaker Emeraude THE GYRATOR
69
WINGSPAN 46"

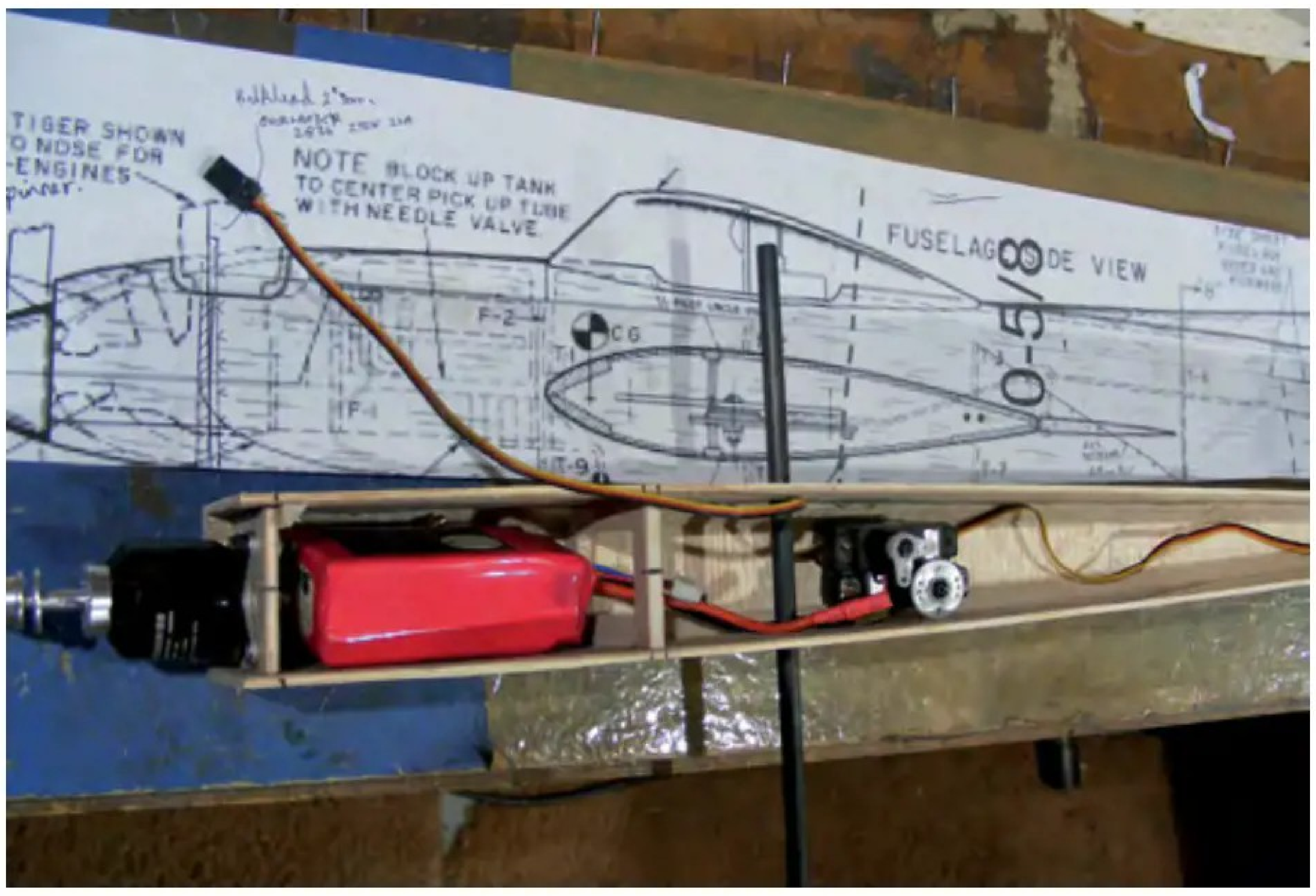
PRINTING THE PLAN

The plan used by Mike Spencer has been downloaded from the Outerzone website at ***https://outerzone.co.uk/plan_details.asp?ID=6455***

If you do not have CAD software the plan will need to be scaled up to print full size, check the scale of the downloaded plan by printing the plan onto a single sheet of A4 paper, then measure the wingspan shown on your A4 print and compare it with the original model's wingspan of 42". On some A4 printers you might have the option to print the plan at actual size onto a number of sheets of A4 paper. Alternatively, you can get the A4 printed plan scaled up at a local print shop. The Outerzone plan can also be downloaded from the AeroModeller Free Plans Archive. The plan and the build article can be downloaded from the AeroModeller Free Plan archive at ***http://quickconnect.to/techdudenas*** This is hosted on your Editor's personal cloud server, and it may be slow to login at times, you might need to try 2 or 3 times to access the download site. Once you have accessed the site, the login username is ***'AM-INNERZONE'***, and the password is ***'Aero-Download-Site-25'***, note that this password is case sensitive, so it needs to be entered exactly as shown here. Once you have logged in, double click on the ***'File Station Folder'*** icon in the top left hand corner of the home screen. When this opens, double click on the ***'AM-InnerZone'*** folder icon in the centre of the File Station display. To download the plan you simply right click on the plan name, and then click on ***'Download'***, the plan will then download directly to your device. The article is available on the download site as individual pages, as well as the PDF of the entire article, the separate pages are useful when downloading the plan pages to then print.



Main components positioned over plan, it all seems to fit! *(M.S. Photo).*



Lower fuselage assembled. *(M.S. Photo).*

Spruce for a robust "I" Beam that was later webbed at the centre sections after the pivot bearings had been installed.

Laying out all available components on a printout of the plan confirmed that everything would fit.

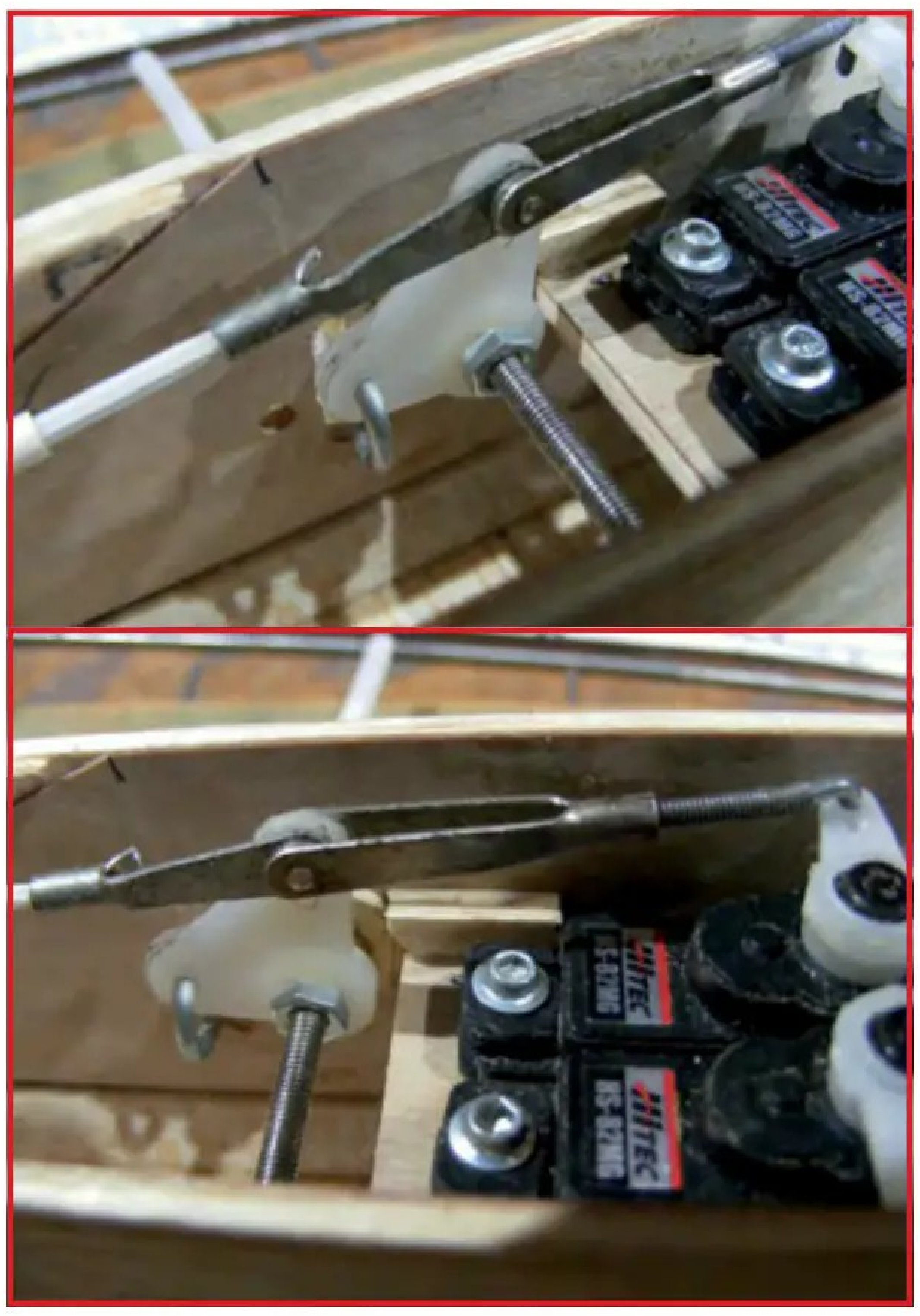
The curved plan parts were printed on A4 paper while those with straight lines were simply transferred by measurement on the CAD screen, the basic fuselage lower box was then assembled as per plan aft of the motor former. The fuselage tapers early and is quite narrow; just adequate for a 3S 1300 LiPo immediately behind the motor, and a pair of HS82MG (3kg/cm) servos behind the 6mm axle, leaving minimal room for Rx and ESC. Soft Balsa block and a spinner ring were later shaped around the motor, aligned to the firewall with short 2mm pins and later held in place by small Neodym magnets,

After much head-scratching, the wing twist linkage evolved. In the limited space available, connection to the 'opposite side' Elevator snake was resolved by using a split clevis. The mini-snake inners were just the right diameter to self-tap into the 2mm clevis. To minimise potential lost motion, the bellcranks rotate around a length of 3mm studding with its ends secured to the fuselage side doublers.

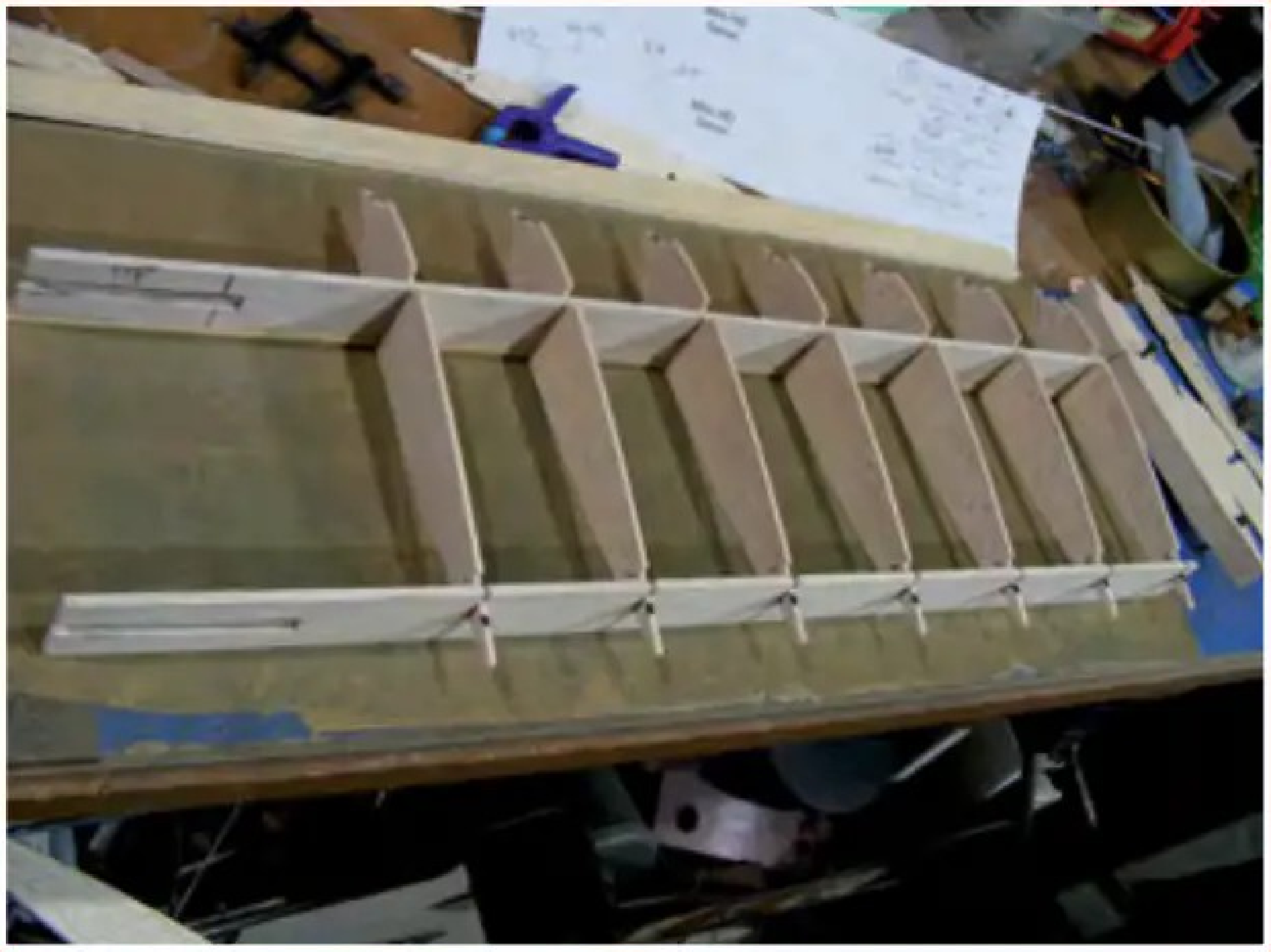
As things were evolving as building progressed, all control linkages and servo positions were assembled and tested before the fuselage top surface was added. Forward of the wing TE, the whole top was configured as a large hatch for ease of assembly, maintenance and battery access.

Before sheeting the inner wing sections, the axle bearings were set in small plywood blocks with the outer one at the second rib lowered slightly to produce 1.5 degrees of Dihedral. The photo shows them in position before the inner spar webs and centre sheeting was added. The bearings are 10/6/3 flanged ballraces but hard Nylon would do a similar job. The 6mm OD thick-walled Carbon axle required slight fettling for a snug sliding fit (600grit Emery cloth used wet to control the Carbon dust). If necessary, the wings will be retained by a rubber band across the fuselage underside as used on previous wing-twist subjects.

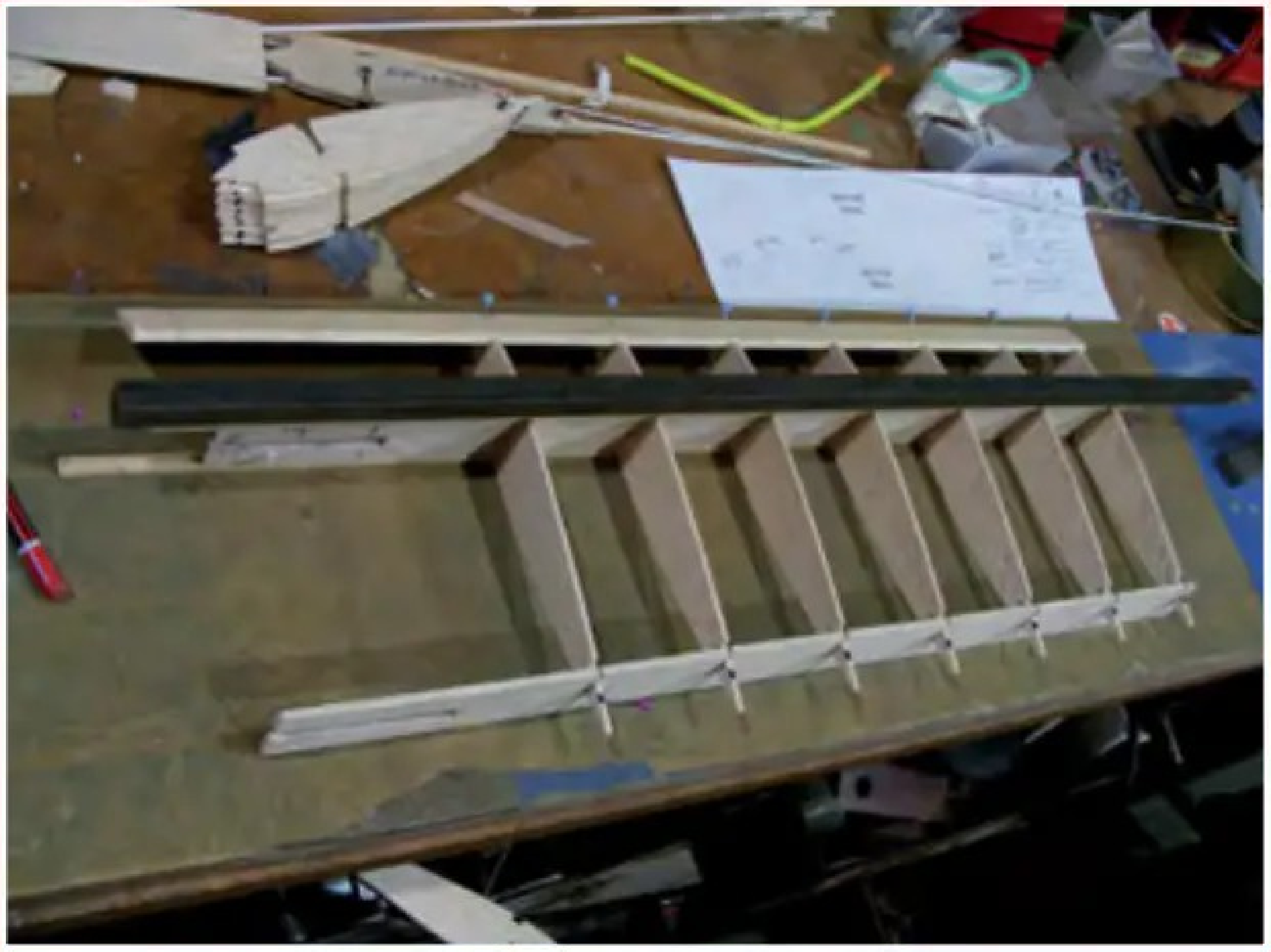
The large 'Flaps' on the rear of the basic constant-chord wing structure represent 12% of total wing area and give a significant character change to the model's outline; it now started to look more like a PEACEMAKER. The outer portion is glued rigidly to the wing while only the inner 50% moves as an anti-



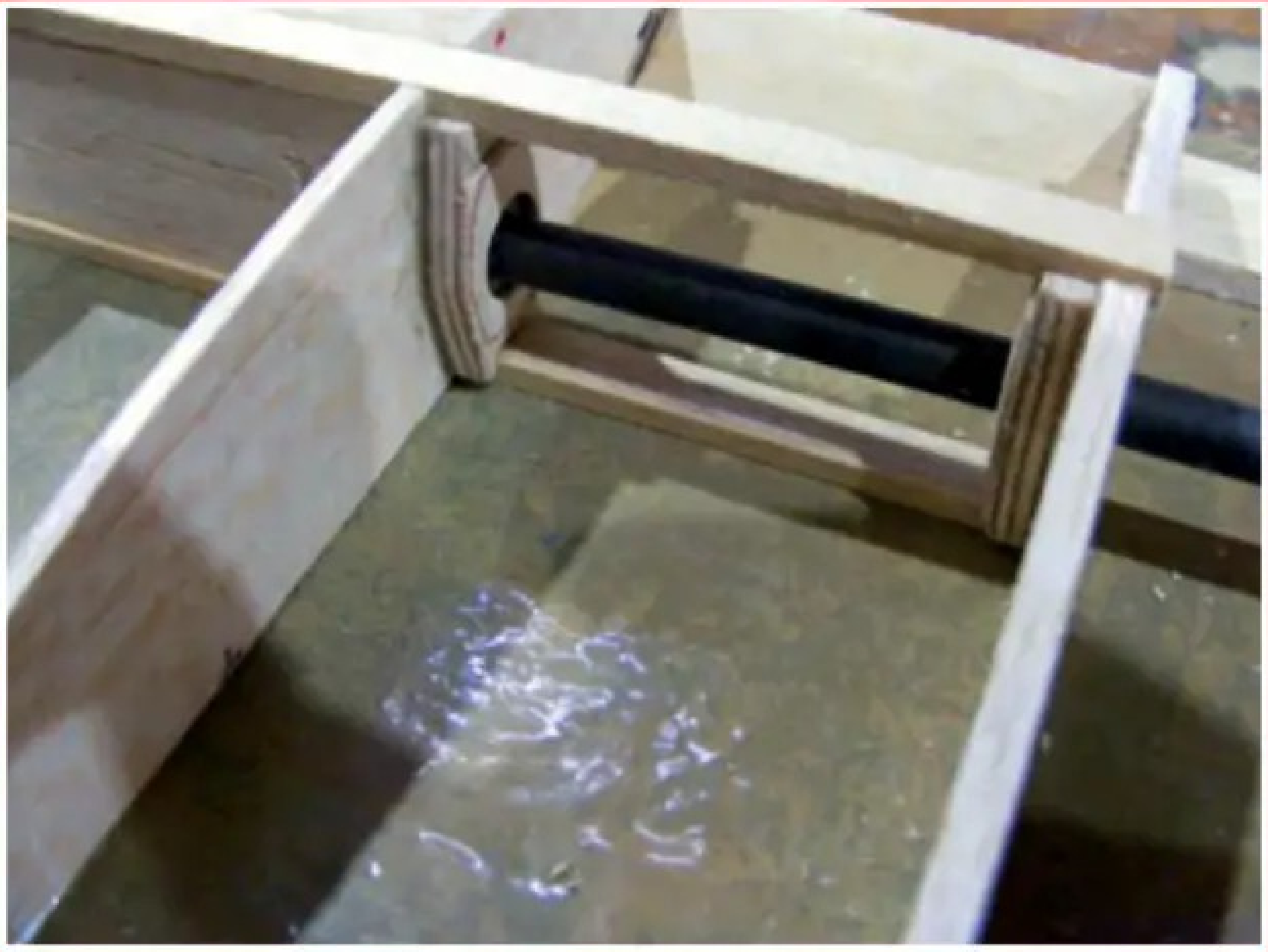
Wing drive bellcrank assembly. Not much room. *(M.S. Photo).*



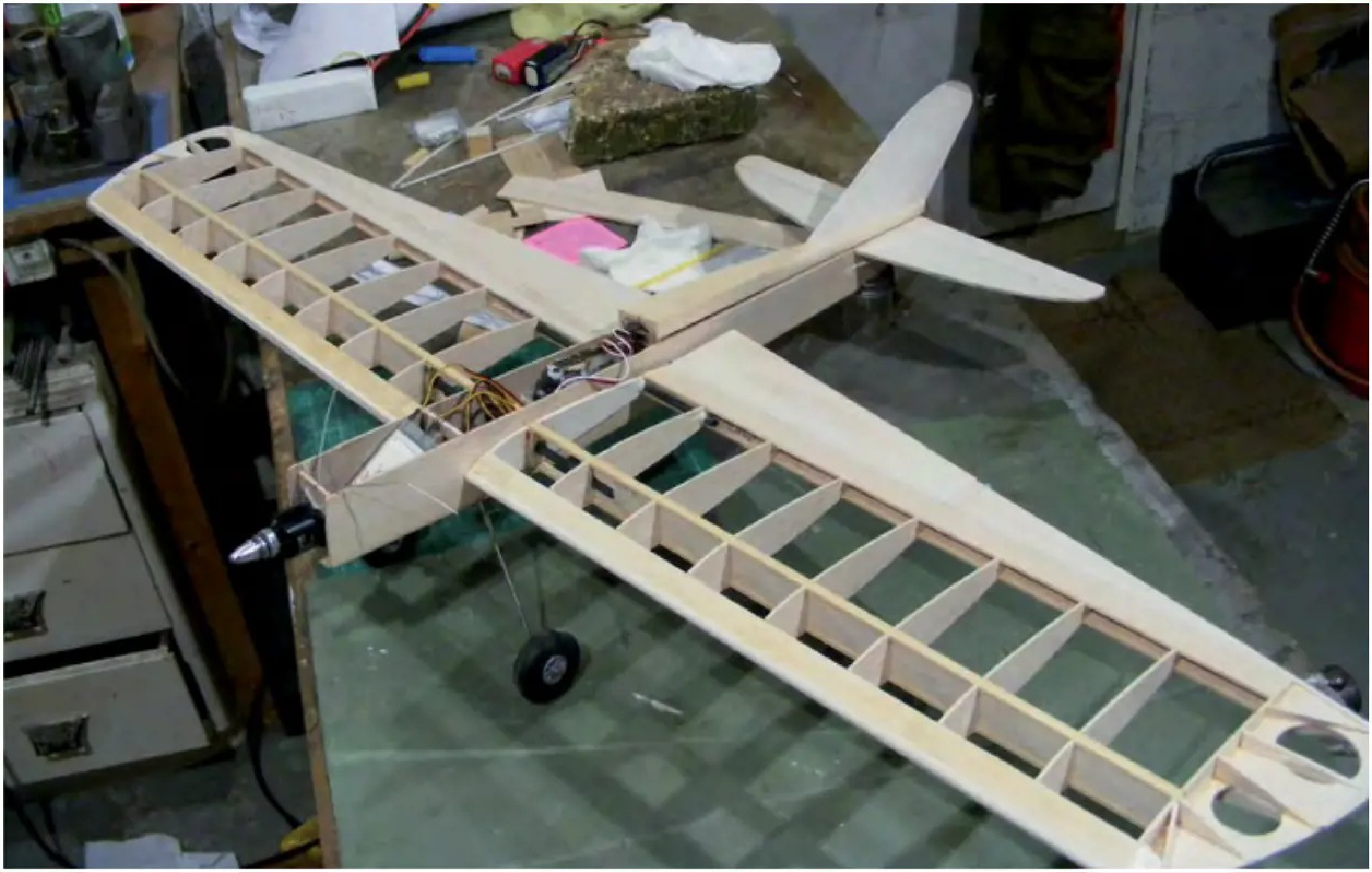
Wing assembly commenced, spare spar used to align ribs before TE added. *(M.S. Photo).*



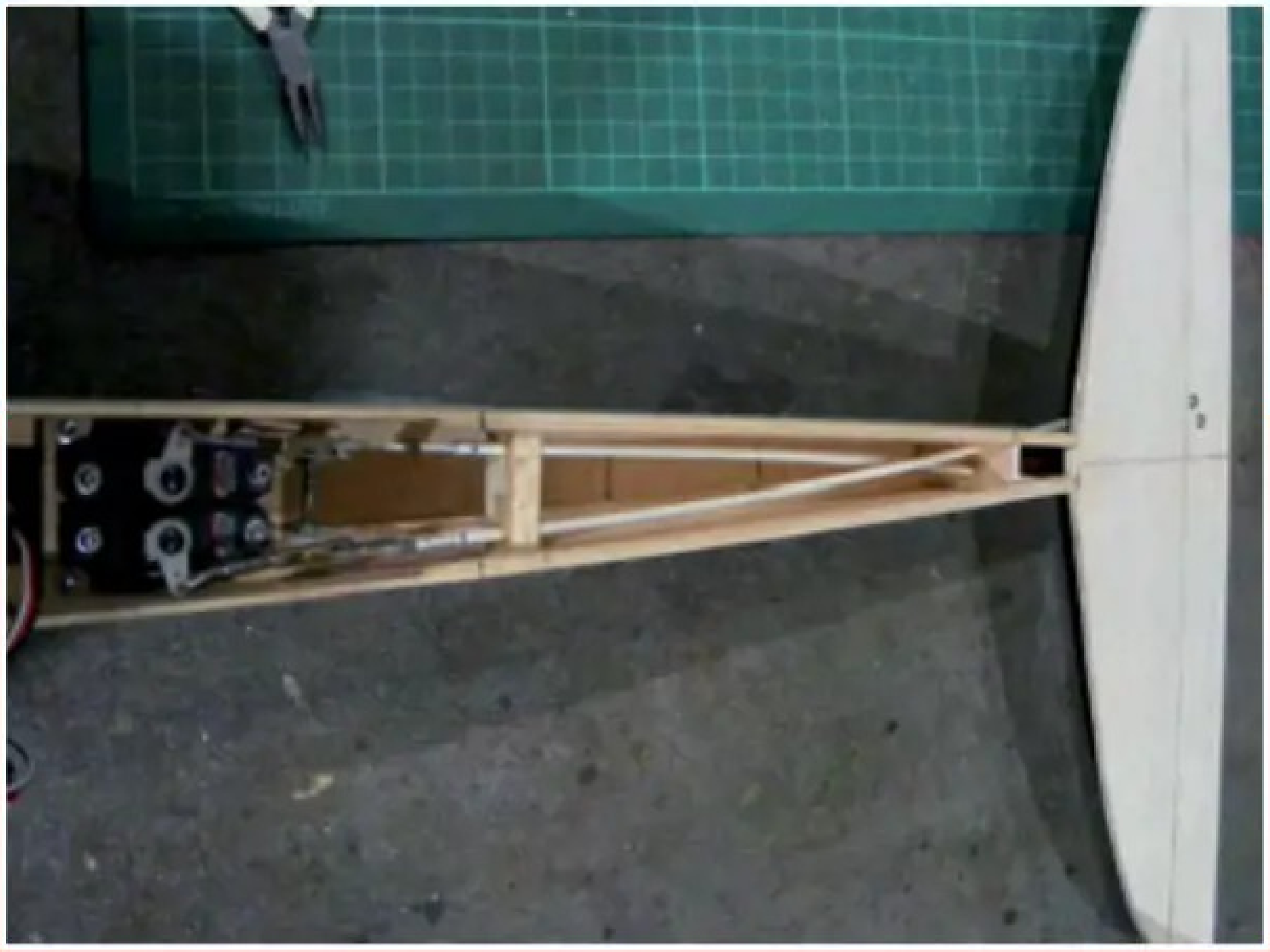
Wing assembly commenced. *(M.S. Photo).*



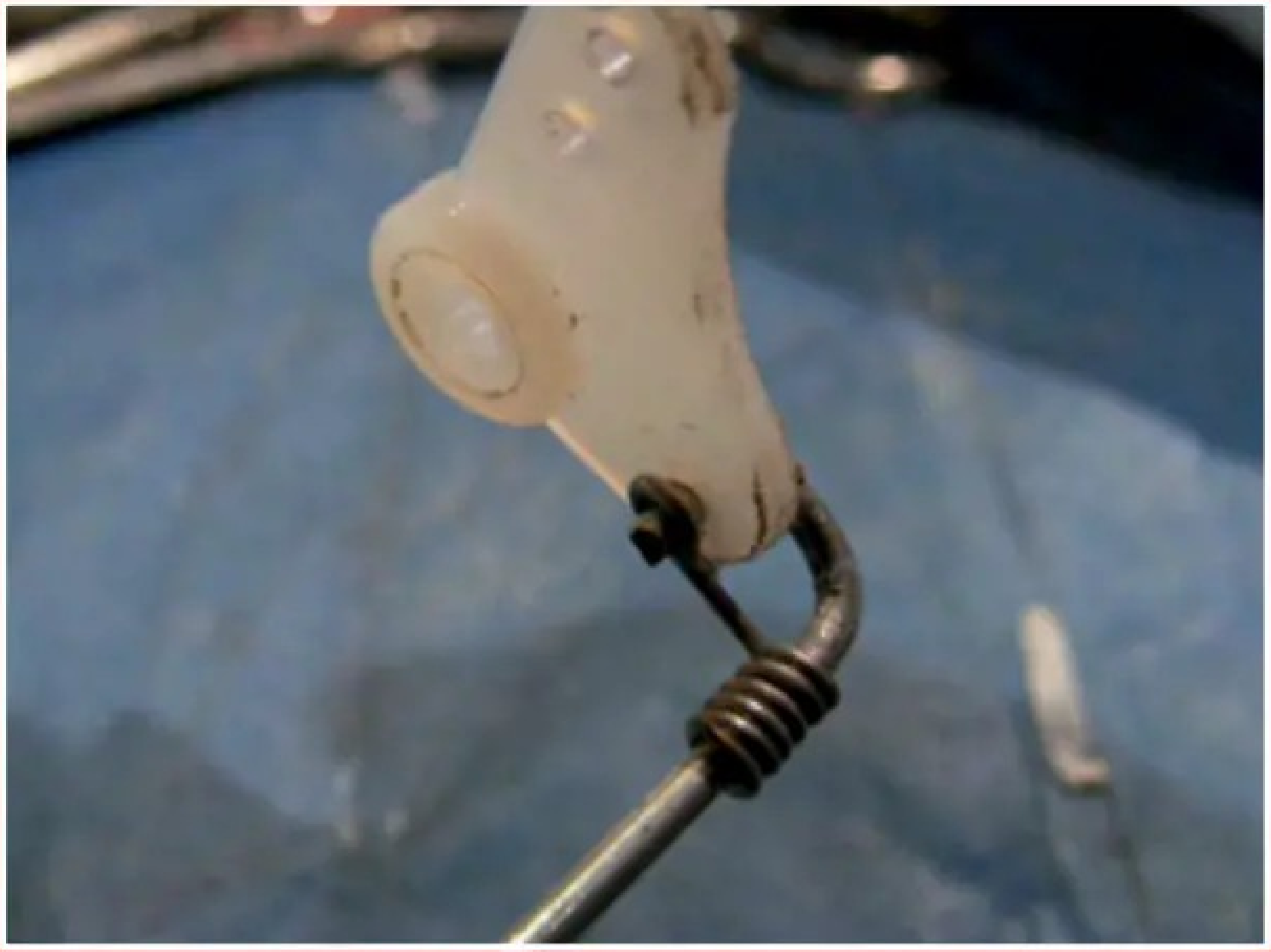
Pivot bearings installed, spar removed between these ribs. To be replaced by front & back webs after bearings secured. *(M.S. Photo).*



Trial assembly of parts, starting to look like a PEACEMAKER. *(M.S. Photo).*



Crossed snakes drive to elevator halves (see text). Linkage completed and proved before fuselage top deck glued on. *(M.S. Photo).*



Retainer for wing incidence drive rod. *(M.S. Photo).*

servo tab (the same moving outline as on the original CL plan).

After several unsatisfactory schemes, retention of the wing pitch drive rod (in a very tight corner) was resolved by winding springy 0.6mm Stainless Steel wire (MIG welding wire) onto a 1.8mm mandrel in the lathe then fettling around the bellcrank as shown, permanently secured with a drop of Cyano. The plastic outer drive tube over the 2mm rod further secures this retainer. This whole Rod/Bellcrank then remains a removable assembly in the fuselage. It is essential that these elements do not come apart easily as they operate the Primary flying surfaces!

After some twelve months of intermittent building activity, assembly was completed in August 2025. AUW with all RC gear and 3S 1300 LiPo was an encouraging 21.5 Ounces before the final paint finish was applied to the glasscloth covered fuselage. Superlight glasscloth was bonded to the fuselage with Acrylic varnish (Polycoat/SkinCrylic etc).

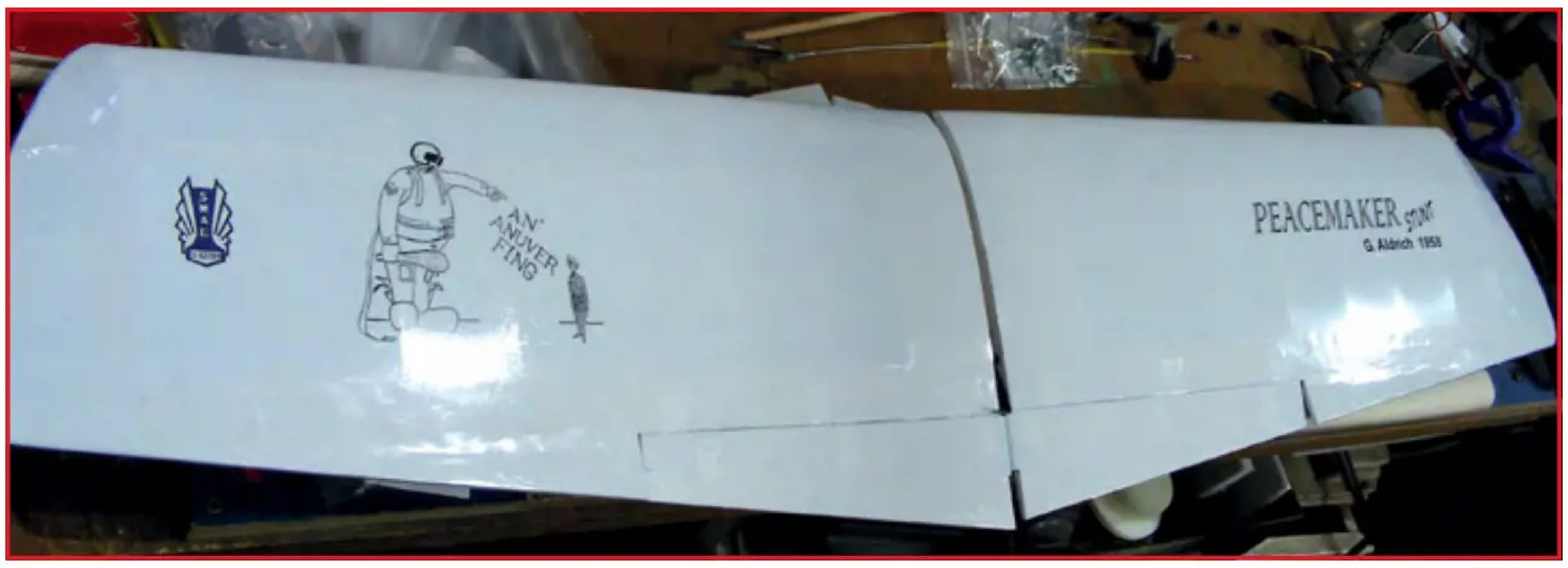
A few days later, primer, rubdown, masking and spraying the finish coats were completed in my favoured 'Raspberry Ripple' Hi-vis livery (another 40-year nostalgia trip from a previous employment). This was all achieved using Halford's quick-drying Acrylic spray cans. Minor cosmetics will be added after a successful maiden flight but otherwise it was complete. The ready to fly AUW now came to 23 Ounces, pleasantly inside my original 26 Oz estimate. The wing and power loading figures promised a lively model.

FLYING

The maiden flight coincided with a warm windless morning during the Autumn Bank Holiday weekend. With the 3S 1300 LiPo installed, pre-flight checks were completed and, with a small group of spectators, I was now out of excuses. With no rudder control I would have preferred a slight breeze for a first flight but it was not to be so. With a good lookout and a firm cry of "Takeoff", the throttle was opened steadily. The model accelerated straight ahead over the uncut grass and, with a little back stick, leapt eagerly off the patch. Settling into a gentle climb, height was quickly gained and the throttle reduced to a 50% cruise setting at about 100 feet. Elevator control was firm but not excessive while roll control (+/- 4 degrees wing twist) seemed

PEACEMAKER STUNT
G Aldrich 1958

Flying surfaces covered, fuselage glass clothed using acrylic varnish. *(M.S. Photo).*



Wing graphics. *(M.S. Photo).*

PEACEMAKER STUNT
G Aldrich 1958

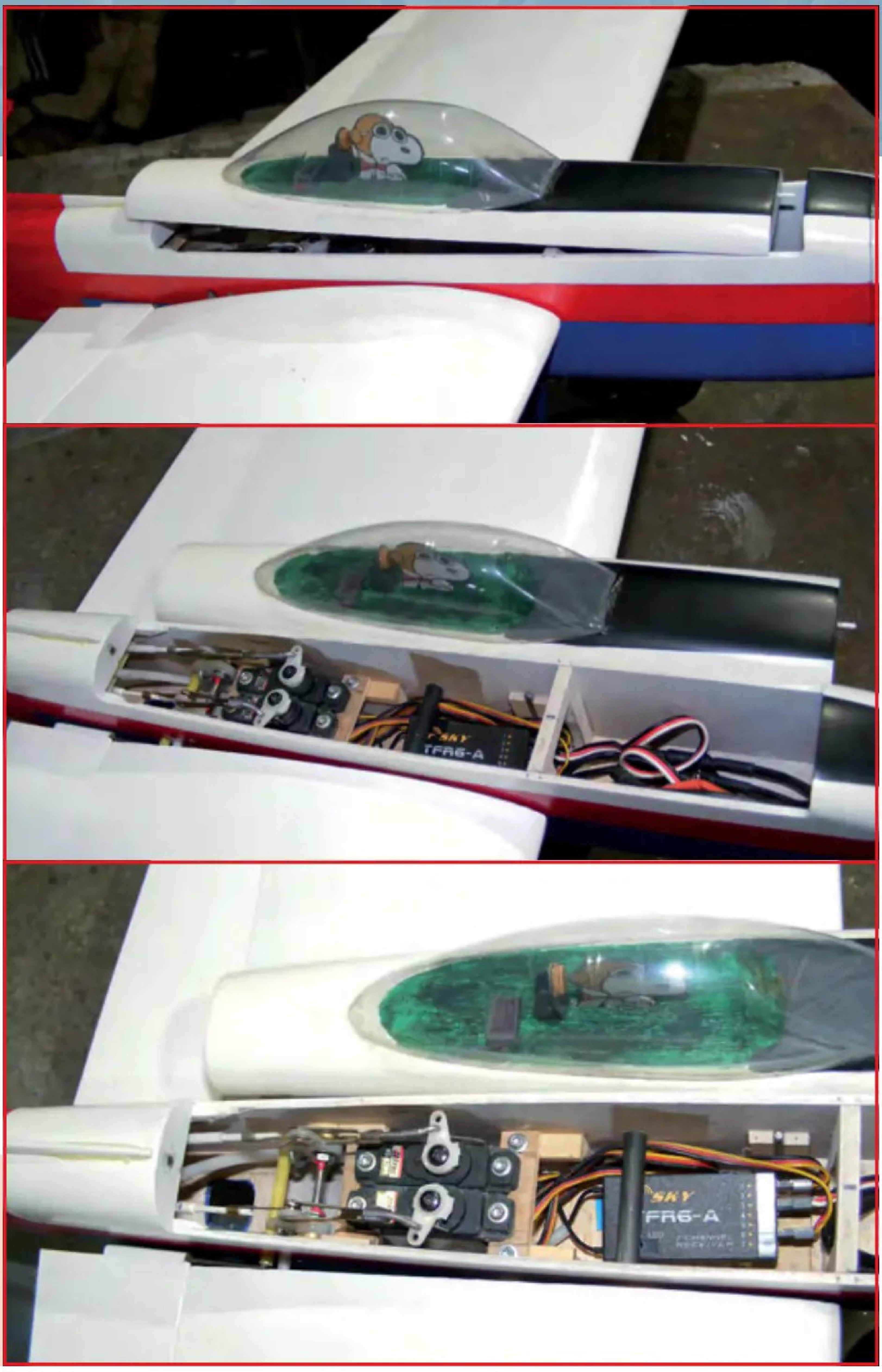
Final paint applied using Halford's Acrylic 'rattle cans'. (M.S. Photo).

quite gentle and would be adjusted for future flights. It did need almost full forward trim but this flight was to establish those basic settings and a small adjustment of wing rigging would later follow in the workshop. A couple of gentle circuits showed no vices and the low wing loading allowed remarkably slow flight. With the taps almost fully open a 60 degree climb angle could be sustained indefinitely - not bad for a power setup of only 150 Watts. However, the airframe did growl a bit at full chat indicating that the prop needed to be rebalanced before any more high energy handling.

Round the circuit for a landing approach with no problems. From that first touch and go, I then climbed high for low speed and stall checks (for me this is first flight essential handling knowledge). The stall was undramatic although there was a hint of incipient spin. After a couple of repeats, relaxation of back pressure always produced immediate recovery so a CG position on the mainspar is acceptable but advisable for it not to be any further aft. Interestingly, the original CL design shows a more forward 'preferred' CG on the LE strips, which is typical of a CL trainer.

In all about five minutes of flight was logged with increasing use of high power. After landing, the battery showed better than 60% remaining so there is plenty of scope for longer flights or, with different props and the power available from that motor - comfortably up to 185 Watts per Pound, some seriously energetic flying. For now I will simply adjust the wing rigging to bring the Tx trims back to centre in cruise flight; I will also stay with the 150W setup until more familiar with the model before considering any power changes.

Now, what shall I choose for my next 'Vintage' build project? ■



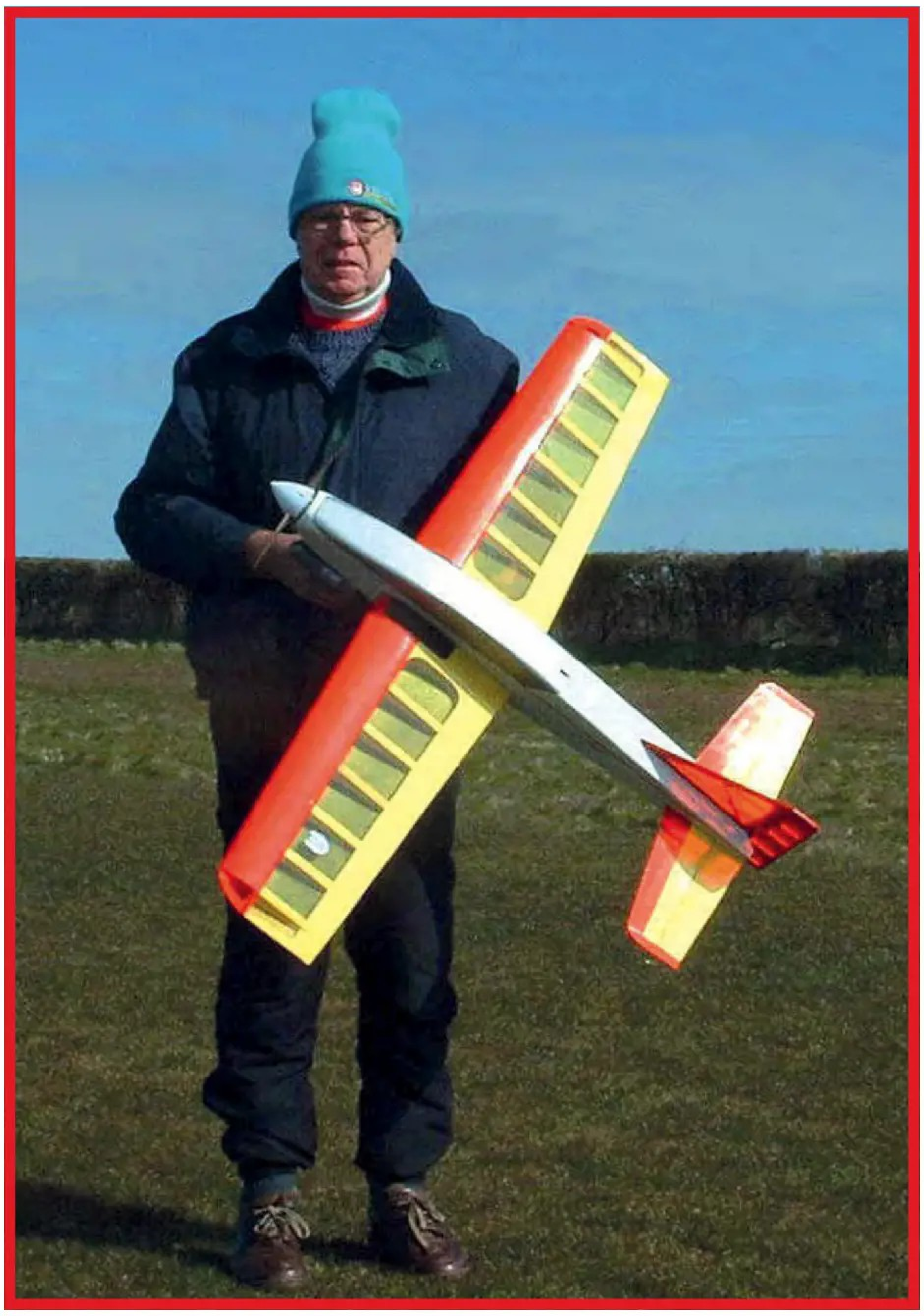
Top hatch, also shows Torsion bar UC at Fuselage side - leaves max room inside. (M.S. Photo).

The late John Singleton, he was a Salisbury club member.

SUPPLEMENTARY DATA
VARIABLE INCIDENCE CONTROL

If you don't have access to the AeroModeller Feb 2023 issue, I will briefly explain the wing twist system. This "VIC" (Variable Incidence Control) system was devised by the late John Singleton to achieve Elevon and Taileron control using only two Rx channels. It evolved through his series of "Y-Not" .40 powered IC designs some 20 years ago and was later used successfully (after much initial excitement) on my 24" RC T-Tray. The main advantage being simple, quick and light wing construction. With either normal Ailerons or a VIC wing "Singleton Mix" works like this: The Tx is set up with a "Delta" mix commanding separate servos for each wing rotation over a small range, with a good dose of Exponential. [Don't use much more than +/- 4 degrees unless you enjoy excessive rates of Roll! - see comments in the RASCAL article]. Each 'Aileron' is then connected to the opposite side Elevator half such that a down going side (increased lift on that wing) causes the linked Elevator to go up adding to the Roll force. Simultaneously, the opposite is happening with the other wing and Elevator. When both 'Ailerons' go down (increasing wing AoA) both Elevator halves will go up (additional pitching force) and vice-versa for down stick. These control surface functions can be achieved by mechanical connection from just two servos or alternatively by using separate servos in parallel (Y-leads) or from slave channels following the Aileron commands.

Note: If the name John Singleton rings a few bells amongst 1960s era readers, he was an active competitor on the early RC Aerobatics scene using what were then "Full House" Reed controls. The AeroModeller Annual of 1960 lists the major events where John and his OD SKYLARK first featured:



'Y-Not' variable Incidence test vehicle in 2004. *(M.S. Photo).*

SEPT '59 NORTHERN GALA, RUFFORTH

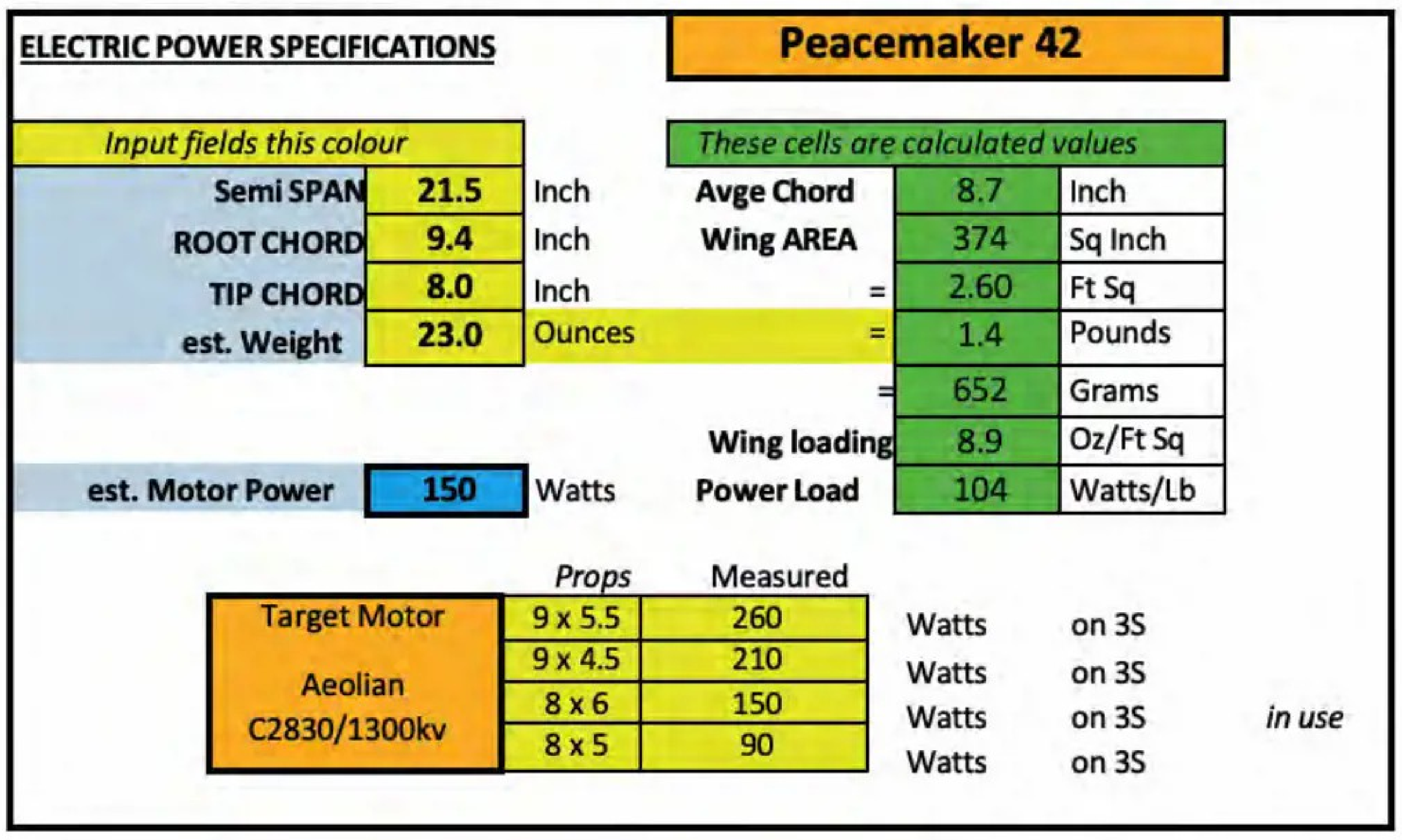
1st	Chris Olsen
2nd	Ed.Johnson
3rd	John Singleton

STOCKPORT ADVERTISER RALLY

1st	John Singleton
2nd	Ed Johnson
3rd	Paul Rogers

JUNE '60 BRITISH NATIONALS

1st	Frank Van Den Bergh
2nd	E. Coppard
3rd	John Singleton



ELECTRIC POWER SPECIFICATIONS

Peacemaker 42

Input fields this colour			*These cells are calculated values*		
Semi SPAN	**21.5**	Inch	**Avge Chord**	8.7	Inch
ROOT CHORD	**9.4**	Inch	**Wing AREA**	374	Sq Inch
TIP CHORD	**8.0**	Inch	=	2.60	Ft Sq
est. Weight	**23.0**	Ounces	=	1.4	Pounds
			=	652	Grams
			Wing loading	8.9	Oz/Ft Sq
est. Motor Power	**150**	Watts	**Power Load**	104	Watts/Lb

	Props	Measured			
Target Motor Aeolian C2830/1300kv	9 x 5.5	260	Watts	on 3S	
	9 x 4.5	210	Watts	on 3S	
	8 x 6	150	Watts	on 3S	*in use*
	8 x 5	90	Watts	on 3S	

PEACEMAKER DATA SHEET

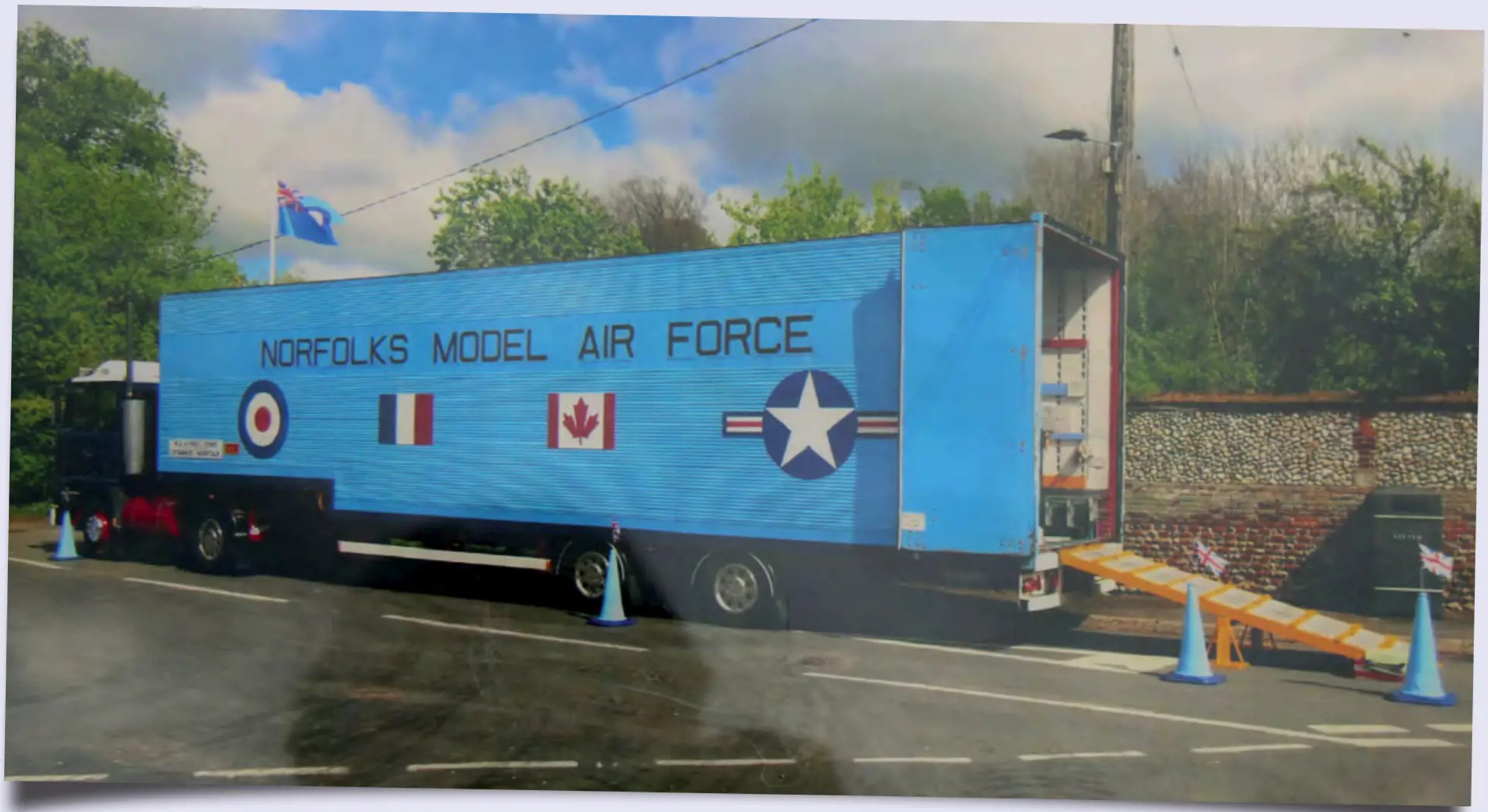
Original Design

- Control Line Aerobatics Stunter
- Span 42", Power 2.5 – 3.5cc diesel
- Original Article - Model Airplane News - April 1960

This Design

Span:..........................42"
Average Chord: ....8.5"
Wing Area: ....2.6 sq ft
Wing loading:..............8.9 ozs/sq ft
Motor:.........................Aeolian C2830 1300kv, (300W), 209 wpp
Battery:.......................3S 1300mAh, LiPo
Prop:...........................APC 9x4.5 E (210 W, 146 wpp), 8x6 (150W 104wpp)
Controls:.....................Ailerons (twist wing), Elevators, Throttle

Built and flown by 'Spike' Spencer (Salisbury MFC) July 2025.


NORFOLKS MODEL AIR FORCE

Tony Nelson's 55 foot trailer that houses his amazing collection of CL Scale models.

NORFOLK'S MODEL AIR FORCE

MEET TONY NELSON, THE ORGINATOR OF 'NORFOLK'S MODEL AIR FORCE', AND HIS TRULY INCREDIBLE COLLECTION OF CONTROL LINE SCALE MODELS

Tony in his workshop in Norfolk.

NORFOLKS
MODEL AIR FORCE
1970 50 2020
YEARS
BY TONY NELSON
STILL LIVING THE DREAM
JUST

A plague in the trailer commemorating 50 years of 'Norfolk's Model Airforce'.

Some months ago a letter arrived at my home, forwarded from the AeroModeller office. When I opened the letter, I could not believe my eyes. The letter was from Tony Nelson, who lives in Norfolk, and in it Tony described and listed his incredible collection of Control Line Scale models.

What makes Tony's collection of models so impressive is not just the number of models that Tony has in his collection, but the sheer size of them. They range in size from a 1/8 scale 5 foot span Hawker Hunter, up to the giant of the collection, a 1/6 scale 16 ½ foot span Short Stirling Mk3, in total the collection is a staggering 24 models.

I was absolutely amazed by this incredible collection of models, and the man behind them. Tony's letter had helpfully included his phone number, so I had to call him to hopefully arrange to go and interview him to find out more about this unique collection of models.

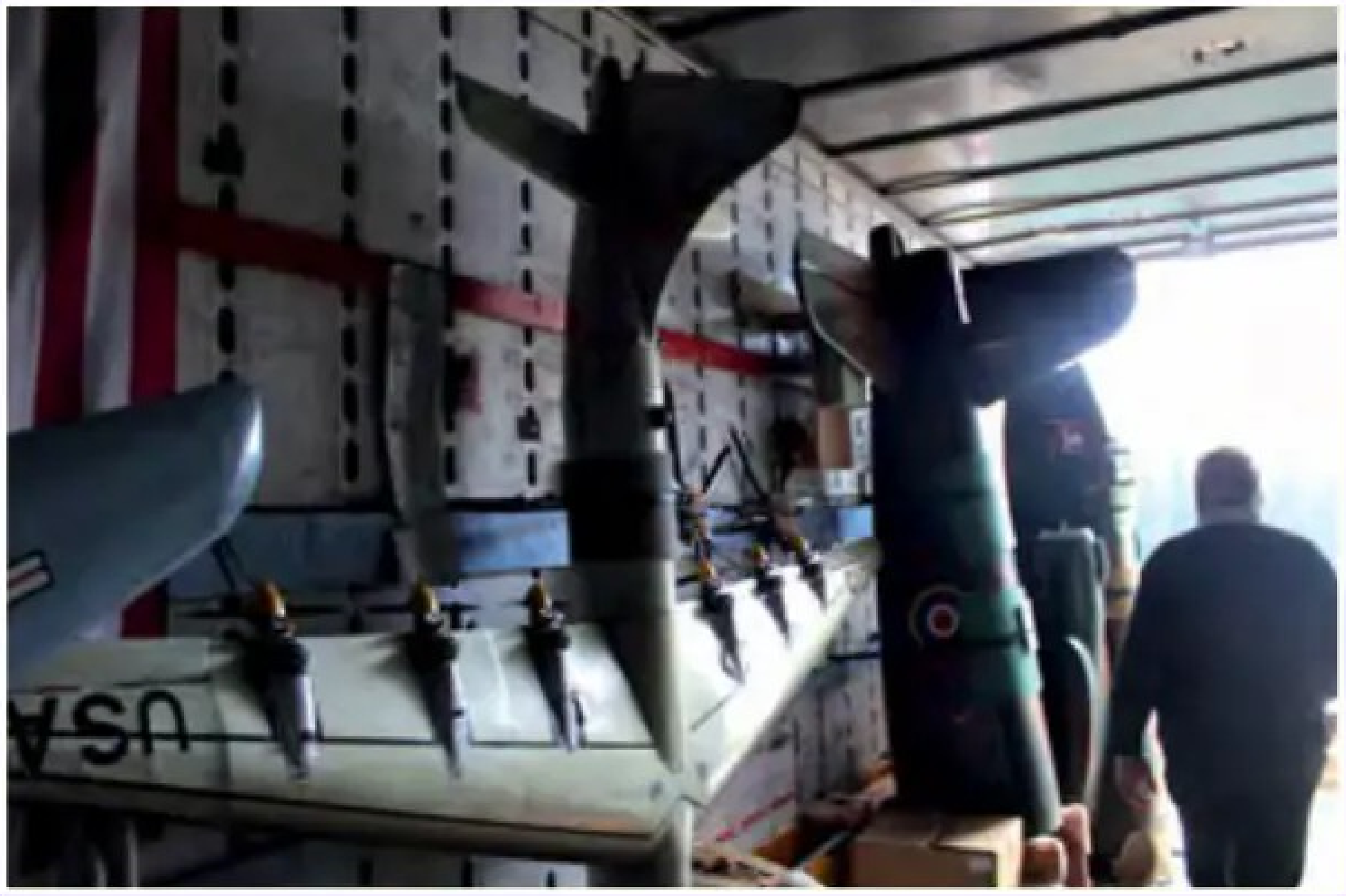
Tony readily agreed to do an interview at his house, which just happens to be a few miles from MOD Sculthorpe, where the 2025 Free Flight Nationals were being held over the August Bank Holiday weekend. I arranged to drive up to Norfolk on the Friday, and interview Tony in his very impressively tidy and organised workshop.

The story behind the models is every bit as remarkable as the models themselves. Tony started building the models in 1970, his first model was a 1/18th scale Vickers Viscount, built from an APS plan, and since then the rest of the collection has been designed and scratch built by Tony.

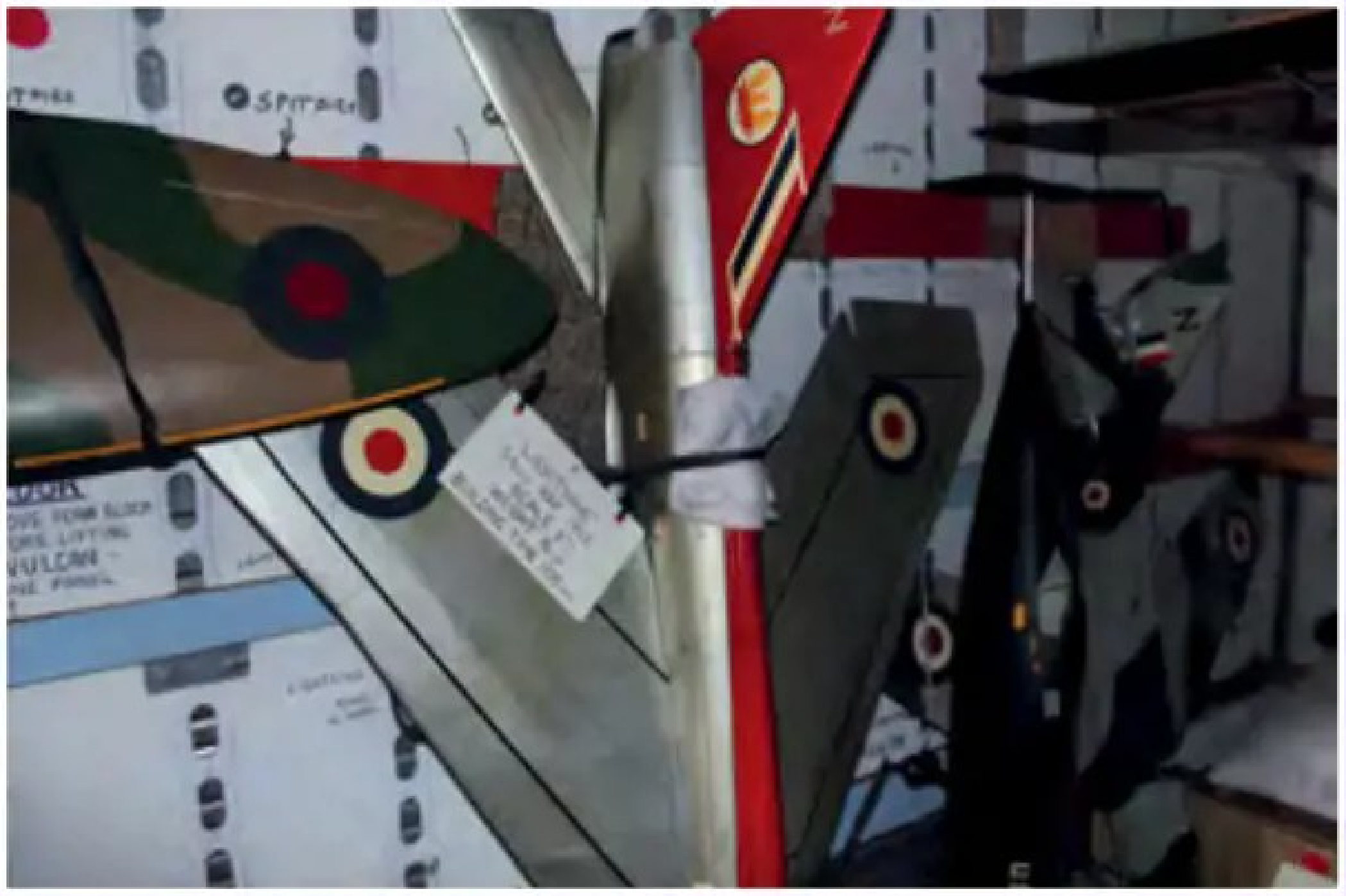
When one has a collection of 24 Control Line Scale models, with the smallest being 5 foot span and the largest being 16 ½ foot span, an obvious question arises of where does one keep them all?

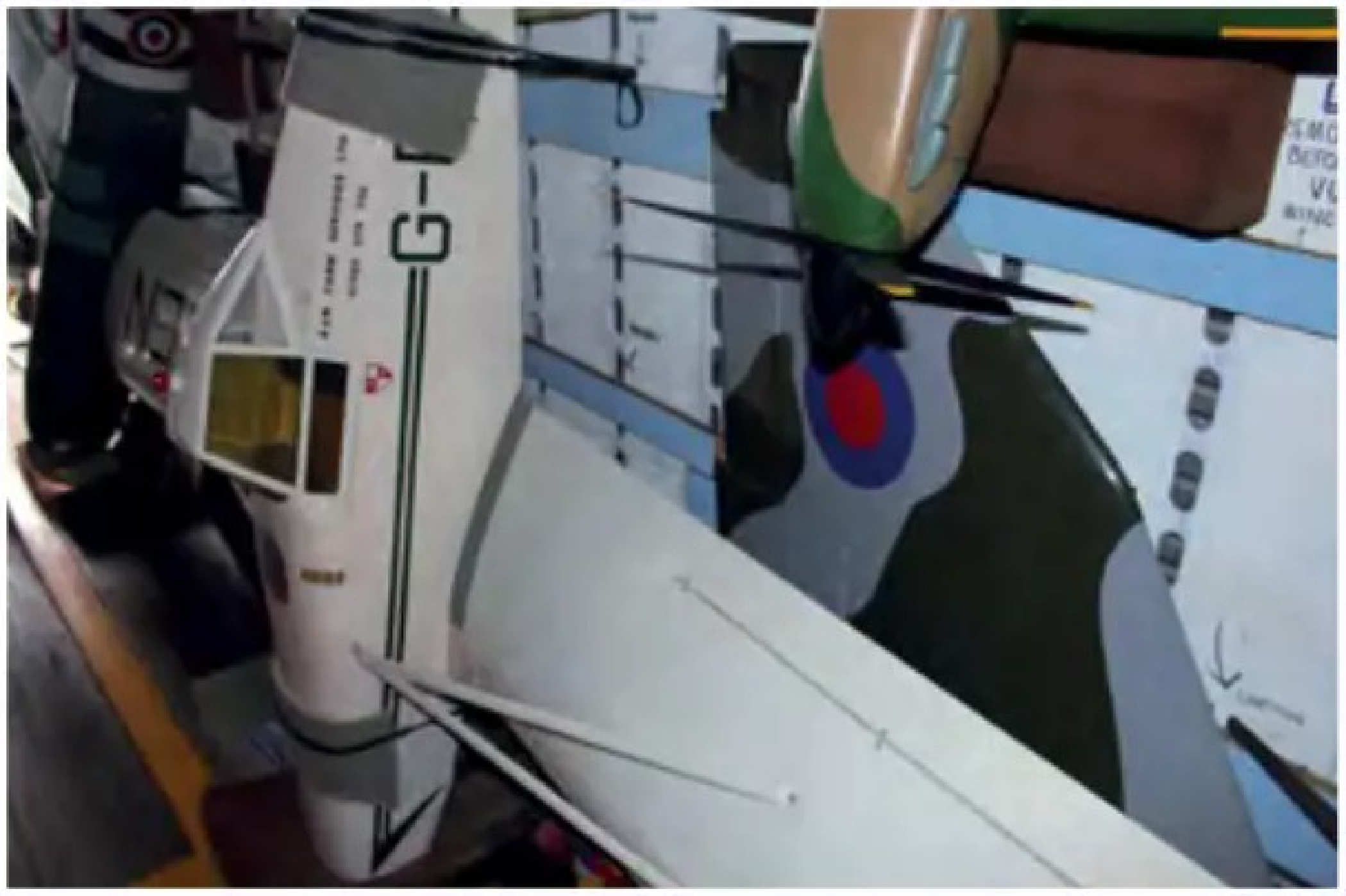
Well it turns out that Tony's working career was as a lorry driver, and so he has his own 55 foot truck and trailer which all the models are stored in. And not just stored in any old disorganised manner, each model dismantles and is strapped in place to its own dedicated hooks and retaining system, which means the models are stored in an extremely tidy and orderly manner. There are also numerous photos of shows that Tony has attended adorning the walls of the trailer.

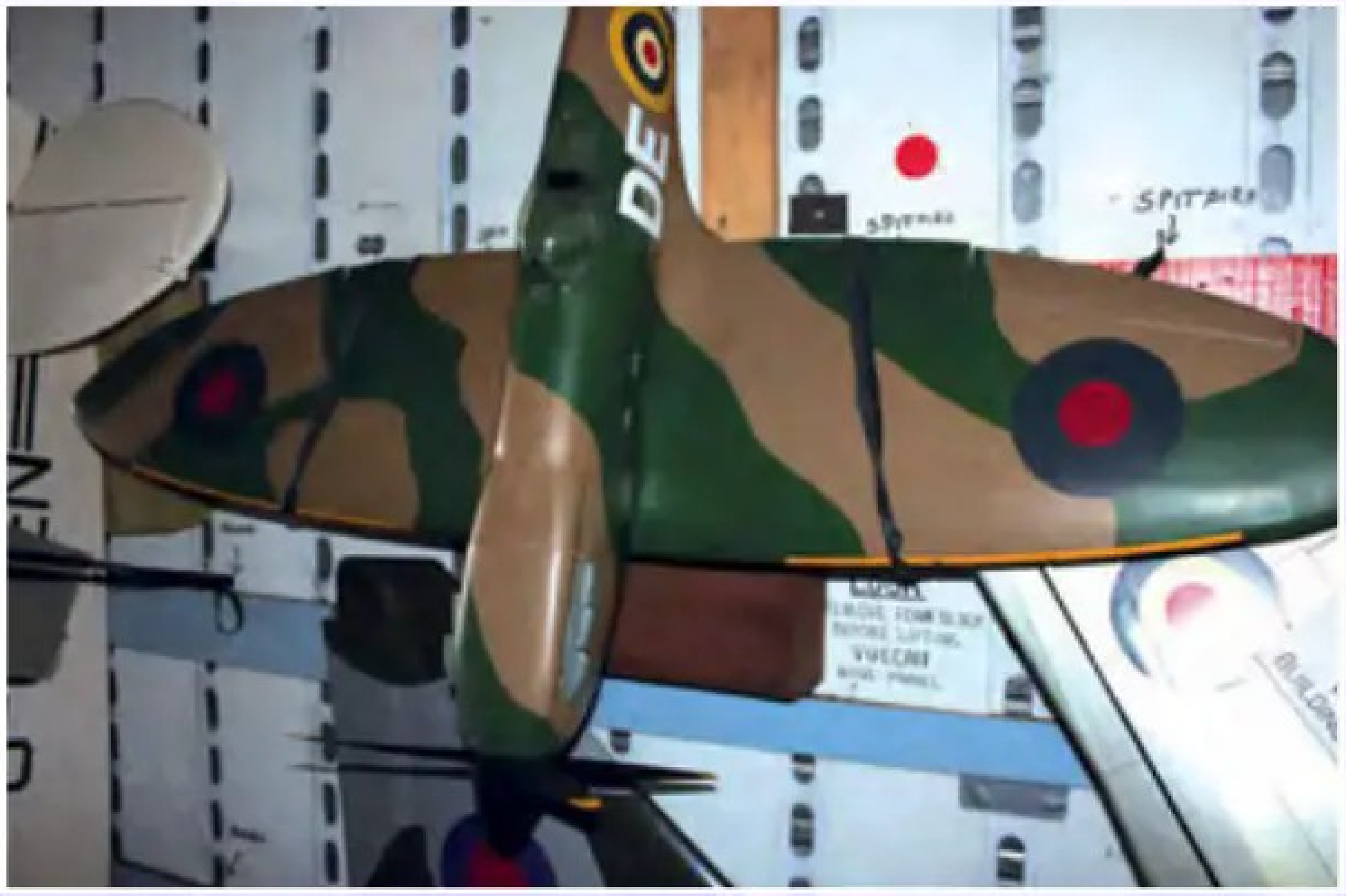
For over 50 years Tony has taken the collection, with its beautifully decorated truck and trailer, to shows all over the country. I asked Tony to describe the building of the models, and some of the shows he has attended...

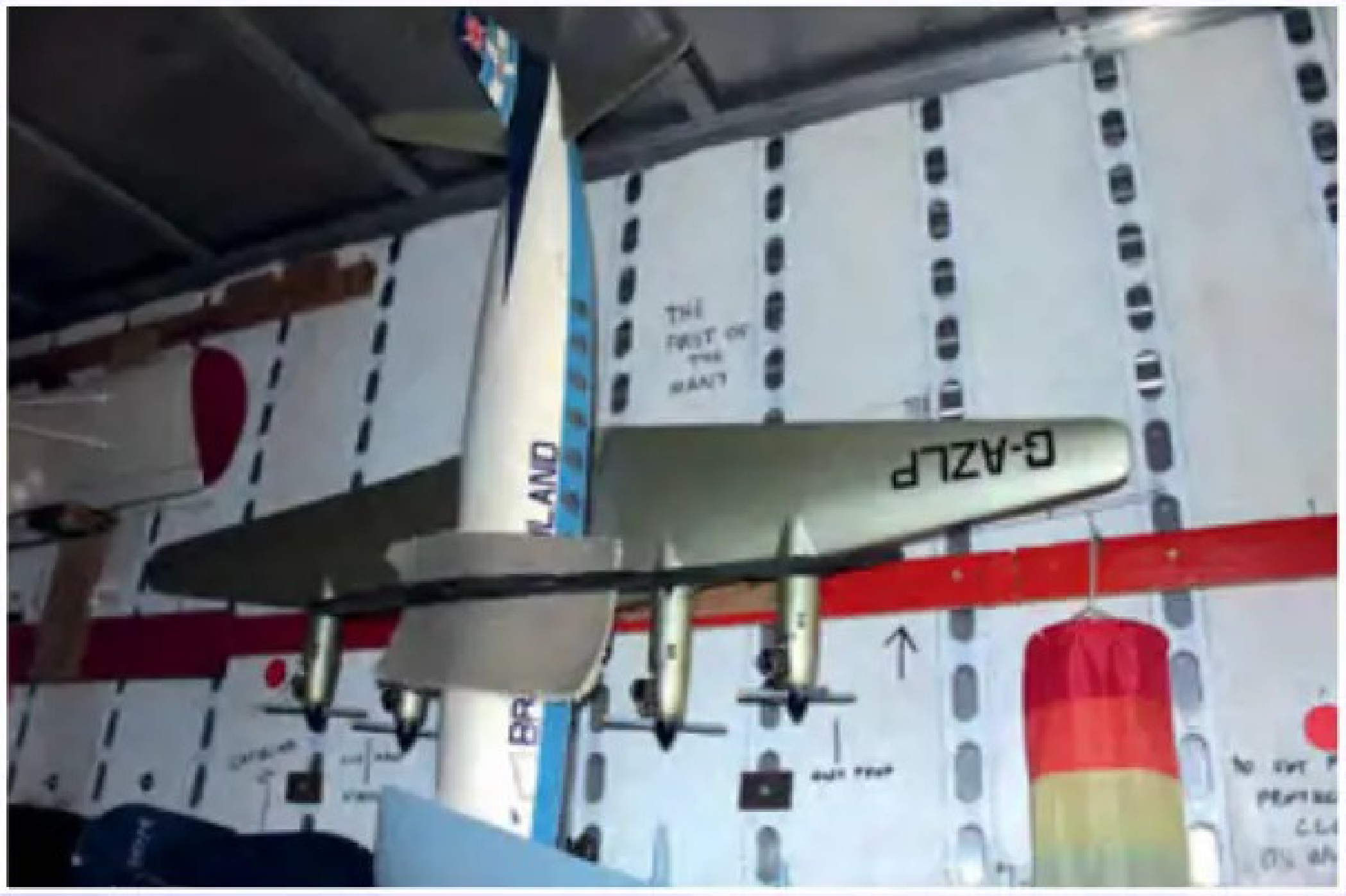

Rear view of Tony in his trailer shows the sheer size of the models, Tony is a tall man, however he is dwarfed by many of the models.

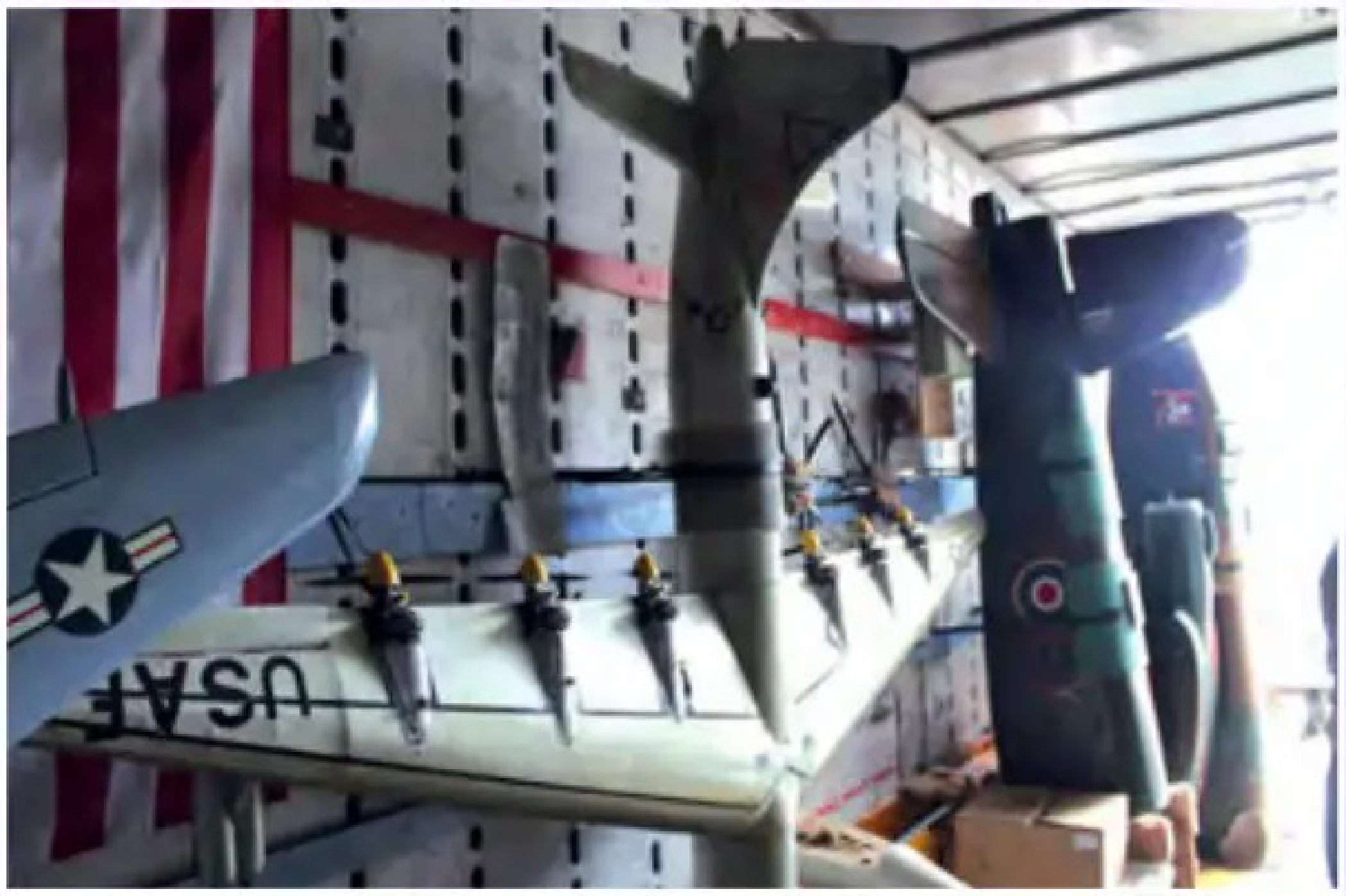
Part of the fuselage of Tony1/4 scale J4 Cub.

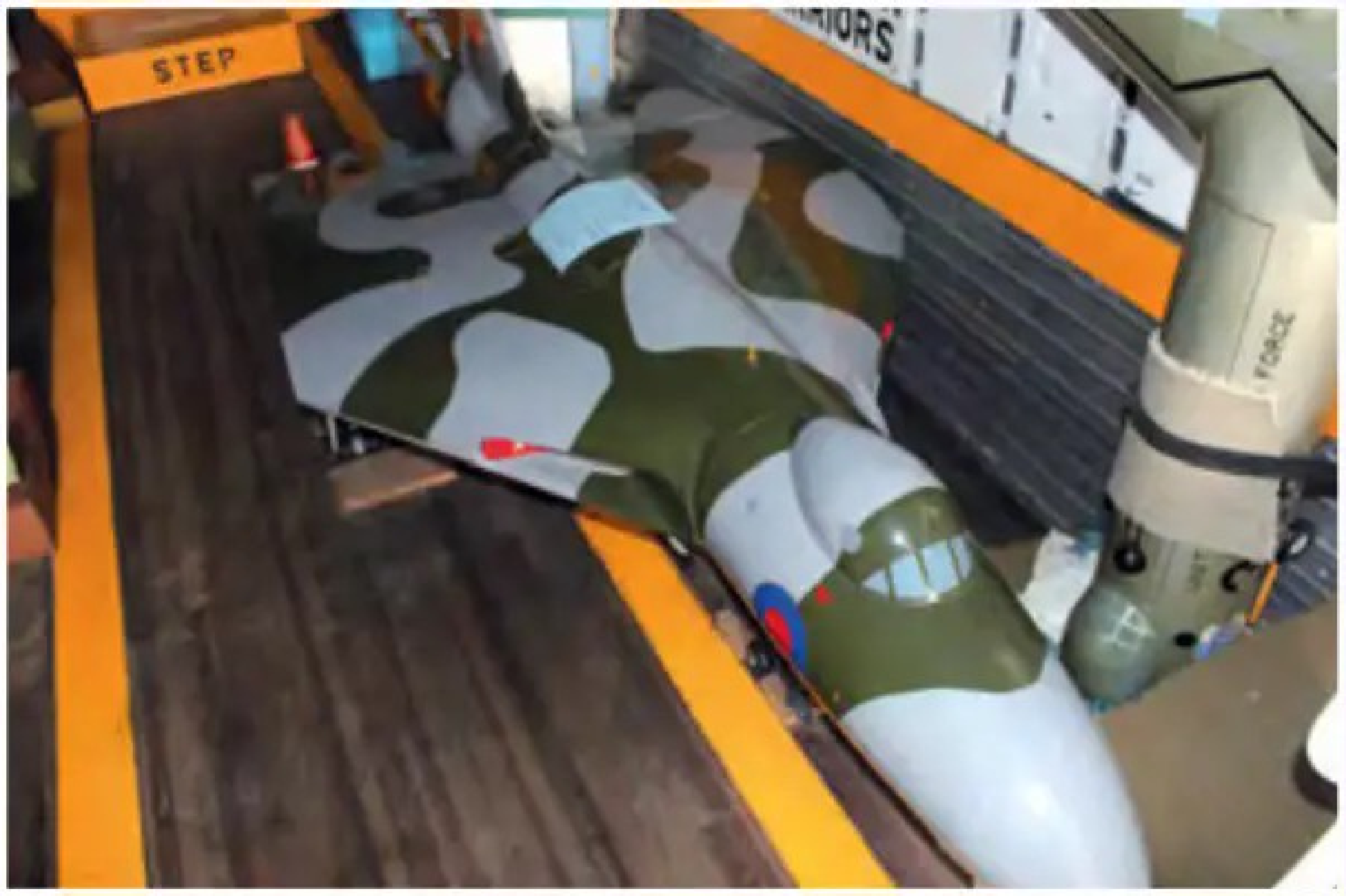

Tony's English Electric Lightning. The label shows it took 1100 hours to build.


Part of Tony's huge 1/3 scale Pawnee Crop Sprayer.


Tony's 1/7th scale Spitfire.

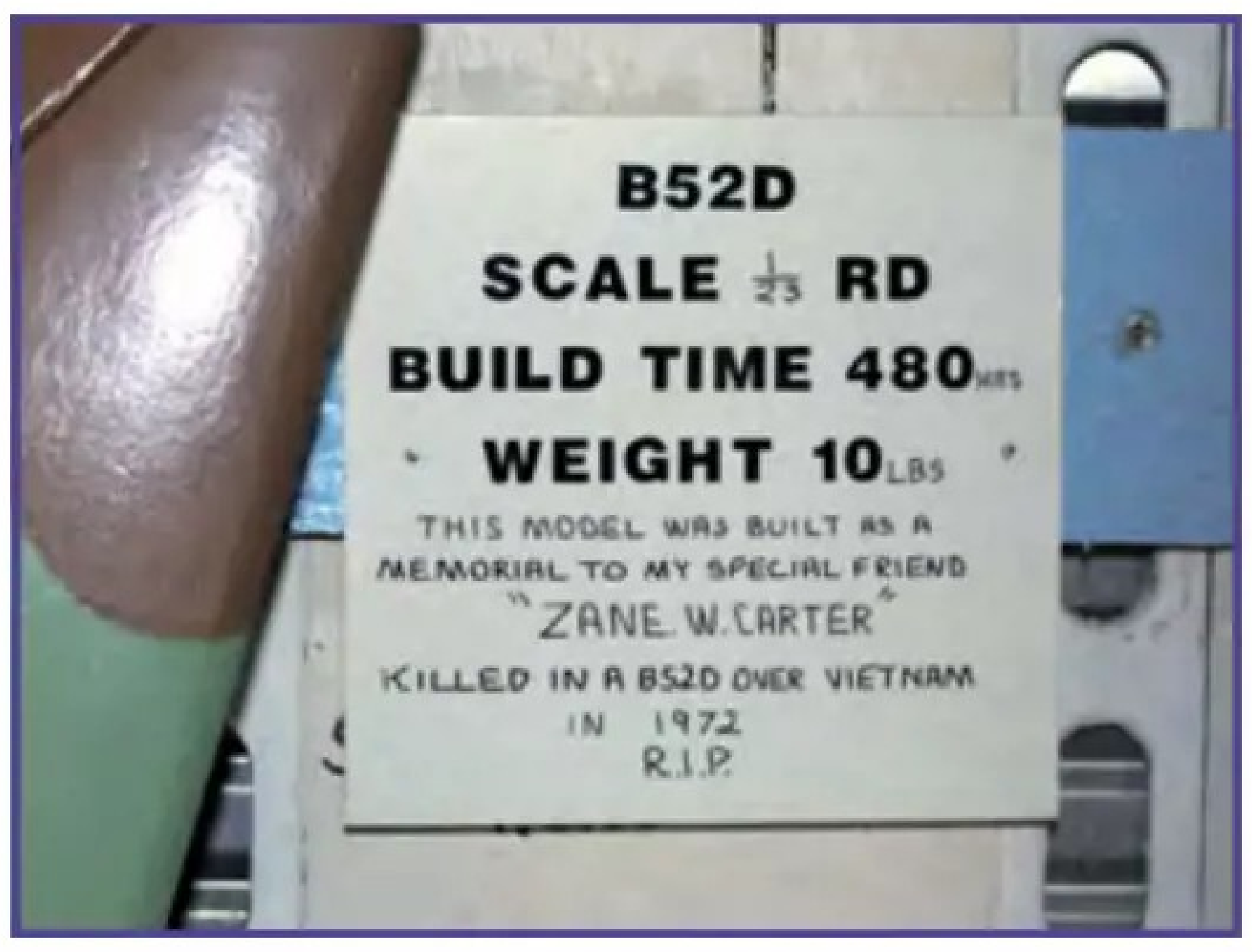

The 1/18th scale Viscount airliner that started the collection.


The b36 Convair is absolutely huge, it is powered by 6 MDS 38s. Incredibly, this model was scaled up from a plastic kit!


The front fuselage of the 1/11th scale Avro Vulcan, above it is the fuselage of the 1/18th scale Hercules.

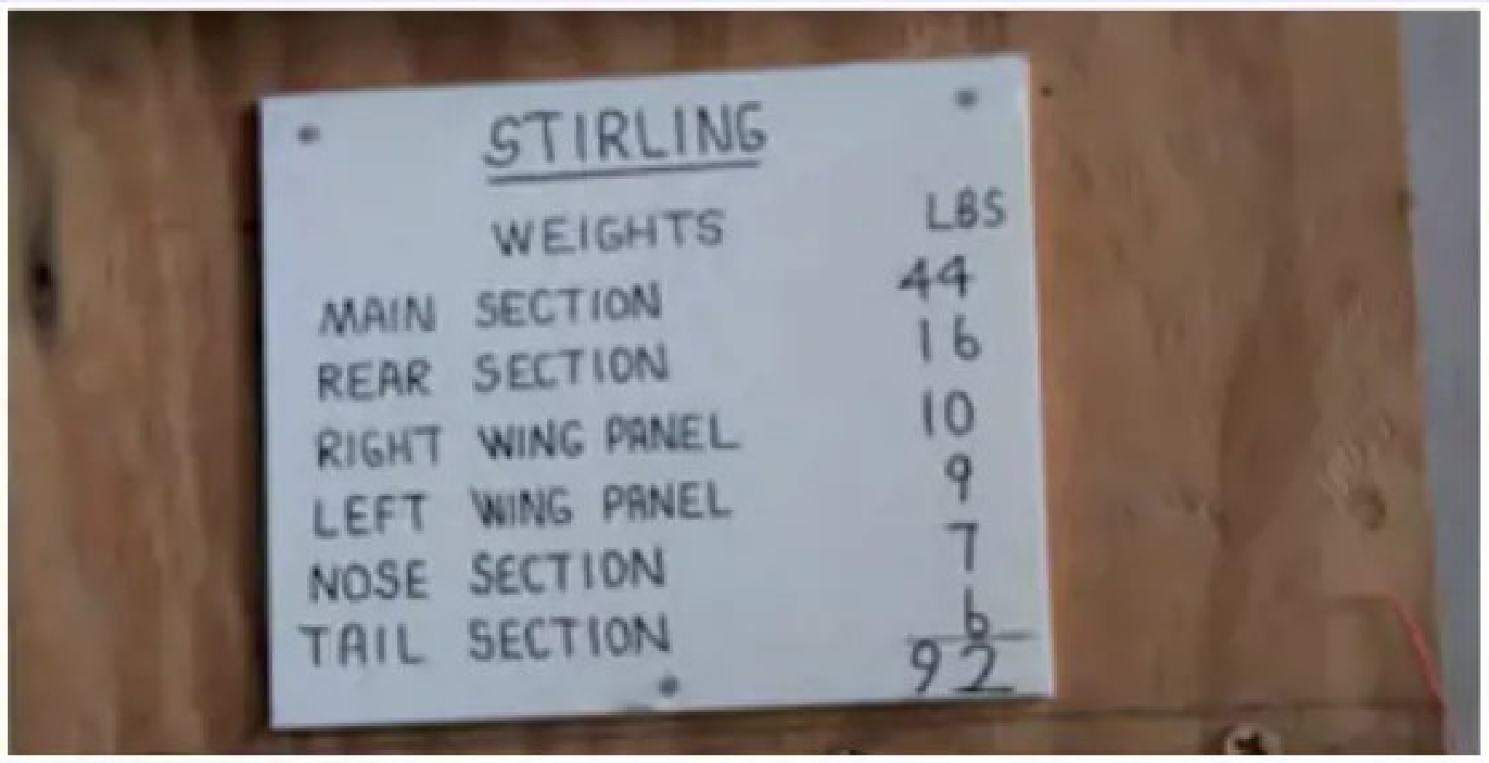
Tony: *I have had a lovely time. I went to Old Warden every year from 1970 to 1975. And as you will see, the airplanes are still in that trailer to this day. Not many people have got Control Line models from over 50 years. I don't fly as much now as I used to. I have enjoyed doing the shows, well perhaps not so much now (Tony is in his early 80s!). I've done quite a lot of shows for the RAF, and for the British Legion.*

We do make quite a lot of money. The money we raise supports the Air Ambulance. You know, you're talking about £1000 a day raised for these worthwhile causes.


B52D
SCALE 1/23 RD
BUILD TIME 480HRS
WEIGHT 10LBS
THIS MODEL WAS BUILT AS A MEMORIAL TO MY SPECIAL FRIEND
"ZANE W. CARTER"
KILLED IN A B52D OVER VIETNAM
IN 1972
R.I.P.
A poignant plaque for the B52, along with it's build details.

The beautifully constructed and detailed gun turret of the Short Stirling.

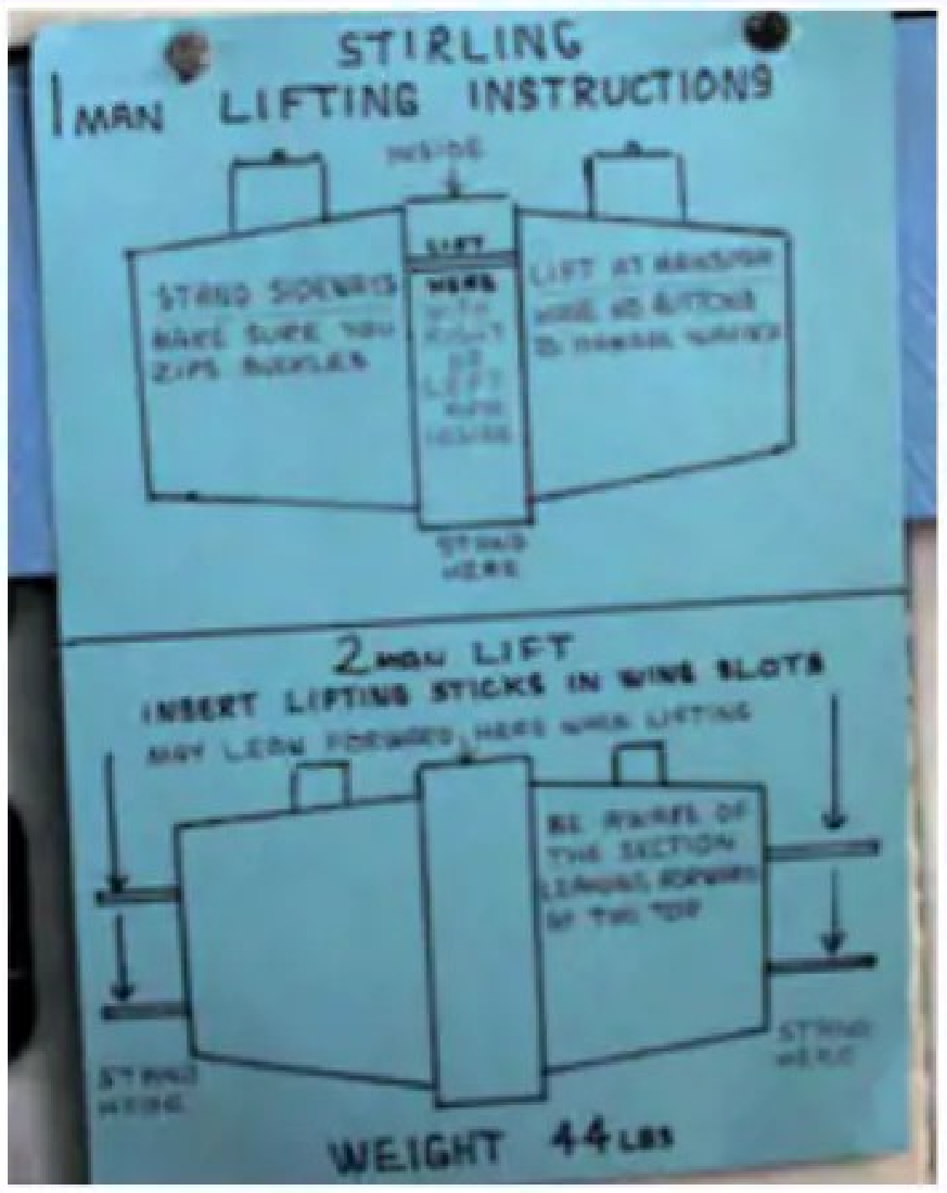
Part of the cockpit detail of the Stirling.



STIRLING

WEIGHTS	LBS
MAIN SECTION	44
REAR SECTION	16
RIGHT WING PANEL	10
LEFT WING PANEL	9
NOSE SECTION	7
TAIL SECTION	6
	92

The weights of the individual sections of the Stirling, the complete model weighs 92 pounds!



Part of the assembly instructions for the Stirling, the centre section alone weighs 44 pounds.

The amazing cockpit detail of the Stirling.

The inner canopy structure of the Stirling.

Editor: When I received your letter, there were two things that really amazed me. One was the sheer number of models you've got in this Air Force. And the sheer size of them of course. I mean how on earth did you come to decide to build such huge Control Line models? These models must have a hell of a pull on the handle.

Tony: *I have been very lucky to have a wonderful crew that support me at the shows. My crew help me to assemble the models, and one person holds on to me to steady me when I am flying these models. I've enjoyed it over the years. I started building models when I was 8, which was in 1950. I've been at it on and off ever since. But as regards what we call 'Norfolk's Model Airforce', that spans over 50 years. When I open that trailer door to show you the models, you'll be looking at over 50 years of flying them.*

Editor: Do you record the number of hours it takes to build the models?

Tony: *Yes, I do, in total it is over thirty seven and a half thousand hours.*

Editor: 37 and a half thousand hours?! That's got to be a world record?

Tony: *People ask me about that. It's amazing. I do a little bit of Radio Control flying, as you can see the models in my workshop. There are also Control Line Stunt models here as well. When I first started I couldn't afford the radio. It was quite expensive. And I always stuck with Control Line. And I do remember dear old Ronnie Moulton saying to me, "you stick with Control Line". Because he built a thing called a Rascal didn't he? I modified it over three years. And I wrote to his family and told them. I called it the 'Triple Rascal Ron'. I'm now going to finish it. Because a lot of people built that model, that Rascal.*

It was very different in Ron Moulton's day, that's for sure.

He was a really lovely old boy. I went to Old Warden five years on the trot and he was there each time.

It's a shame he never saw my Vulcan fly because that really would have impressed him. I only flew it about four times. The Vulcan had a chainsaw engine in it, a converted chainsaw, with shaft drive, and the propeller on the back, 90 foot lines, and that was really fantastic. I scaled up his Rascal design, and called it 'The Triple Rascal'.

The thing about Old Warden was, you could just go there, join the queue and away you went.

In 1975 I thought, they'd like me to take the B36 Convair and run the whole six engines. Because that doesn't make as much noise as what you would think. But you get two going and wah wah wah wah, and once you get the sixth going, the noise is fantastic. I use an electric starter, I can usually get all six engines running in about twenty seconds. The Convair won first prize at Old Warden, with the prize being presented by Ron Moulton.

I can remember the B36 Convair flying into Sculthorpe when I was at school. We were nearly under the main flight path.

One day I was sitting in my lorry down at a coal store, an ex -RAF man came up to me, who worked in the coal store, with a copy of Airplane magazine. The B-36 was on the front cover, and he said to me, I bet you can't make one of them.

This lovely old boy's name was Alan, and I said, Alan, do you want me to make one then?

Well, yeah.

And 12 months down the line, Alan, do you want to come and see it?

Much of what you will see today was built in this workshop, in fact most of them were. I did say that the Stirling would be the last one. I was building others at the same time and I would say never again will I be able to go through all of this.

The Stirling alone took 7,500 hours to build. It's got all the cockpit detail, the instruments and everything.

At one time a dear old boy phoned me up and he said, "I heard you built a Sterling? I flew on the very one you built."

He came up to Norfolk in 2016 to see the Stirling, he and his mum, and his wife.

He was amazed when he saw the Stirling, with tears rolling down his face.

He said "you've left one thing out for me. I used to have a little screen hanging up at the navigation station to stop the glare from the sun. I said, I'll do that for the next time you come, and I did.

He has passed away now, he lived in Brighton. I still keep in touch with the daughter to this day.

The RAF guys I met were all special, I think there's something about the RAF. It's more than just being in the services. ■

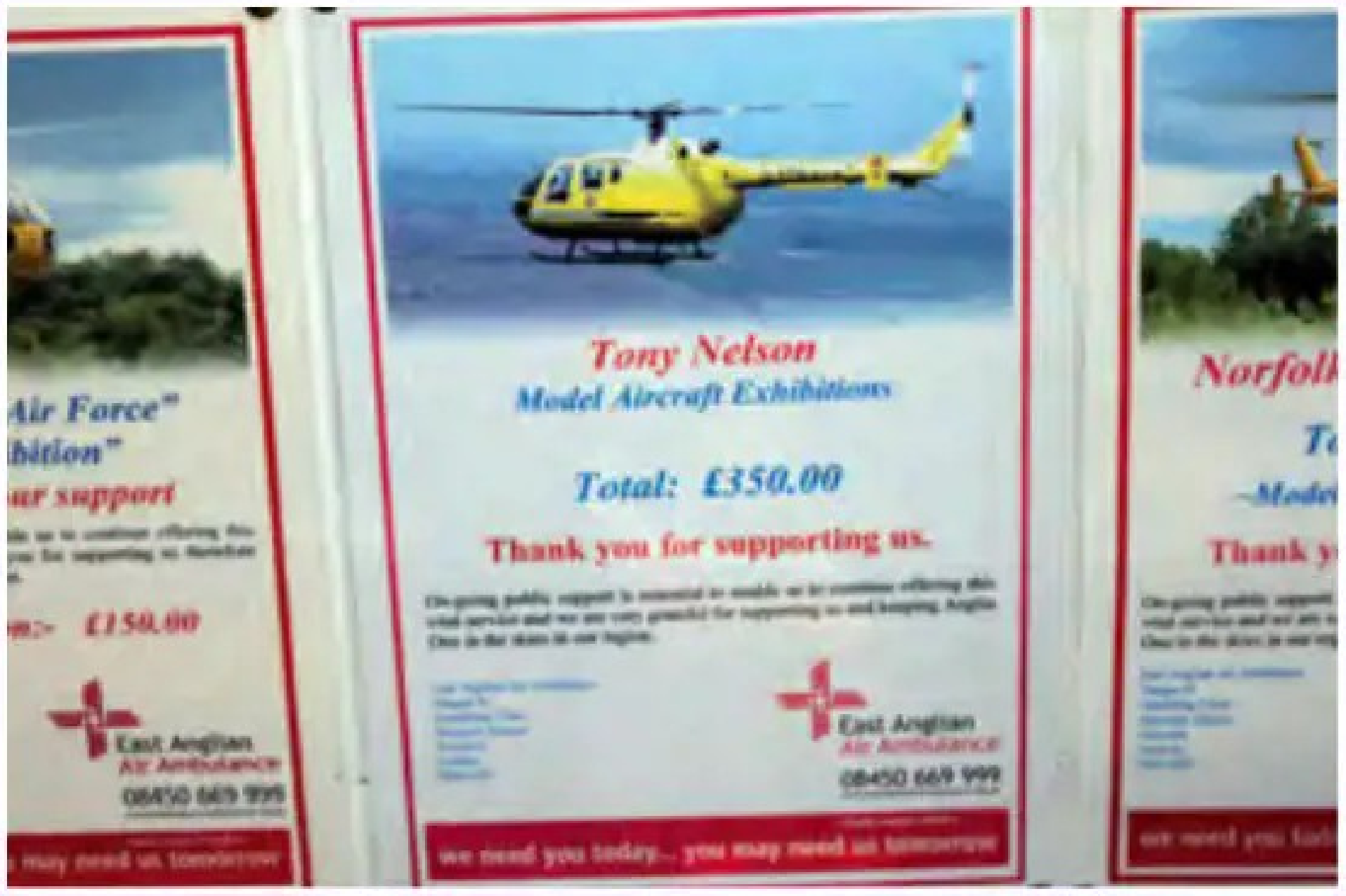
TONY'S CONTROL LINE SCALE COLLECTION:

ROYAL AIR FORCE			**YEAR BUILT**
Short Stirling Mk3	1/6th scale	16' 6" wingspan	2011
Avro Vulcan B2	1/11th scale	10 foot wingspan	1981
Hawker Hurricane	1/7th Scale	5' 6" wingspan	1977
Supermarine Spitfire	1/7th scale	5' 4" wingspan	1977
DH Mosquito	1/9th scale	5'9" wingspan	2004
Hawker Typhoon	1/7th scale	6 foot wingspan	2009
Hawker Hunter	1/8th scale	5 foot wingspan	1971
Horsa Glider	1/8th scale	11 foot wingspan (RC)	2009
C47 Dakota	1/8th scale	11 foot wingspan	2000
EE Lightning F6	1/9th scale	5 foot wingspan	1972
Canberra PR9	1/10th scale	6' 6" wingspan	2006
Hercules	1/18th scale	7' 6" wingspan	1973
UNITED STATES AIR FORCE			
Lockheed C5a Galaxy	1/23rd scale	10 foot wingspan	1980
Convair B36	1/22nd scale	10' 6" wingspan	1975
Catalina PBY5	1/12th scale	9' 6" wingspan	1991
SR71 Blackbird	1/12th scale	5 foot wingspan	1982
B52 Stratofortress	1/23rd scale	8' 6" wingspan	1984
Northrop F5 Tiger	1/6th scale	4' 6" wingspan	-
P51 Mustang	1/6th scale	5'9" wingspan	-
CIVIL AIRCRAFT			
Pawnee Crop Sprayer	1/3 scale	12 foot wingspan	1990
Pawnee Crop Sprayer	1/6th scale	6 foot wingspan	1978
Piper Cub J3	1/4th scale	9 foot wingspan	1985
Viscount Airliner	1/18th scale	5'6" wingspan	1970
Stearman Biplane	1/5th scale	6'6" wingspan	2013
NON SCALE MODELS			
Rascal scaled up x3 (from Ron Moulton Plan)			-

'Keep on trucking'! The boss poses in front of his 55 foot lorry and trailer.

NORFOLKS MODEL AIR FORCE

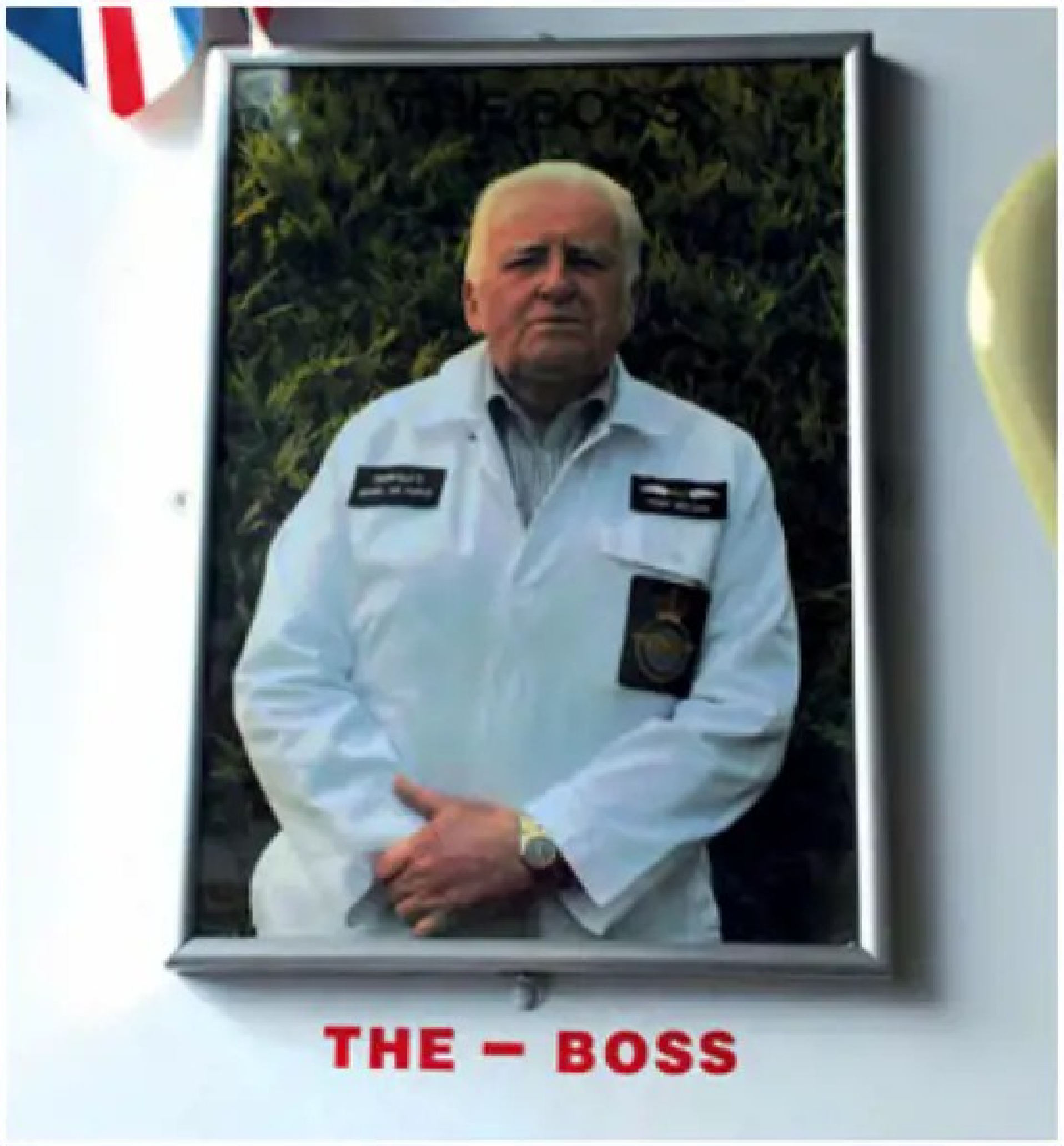
Just one of many framed photos in the trailer from shows that Tony has appeared at over the years.


Tony Nelson
Model Aircraft Exhibitions
Total: £350.00
Thank you for supporting us.
Total: £150.00
East Anglian Air Ambulance

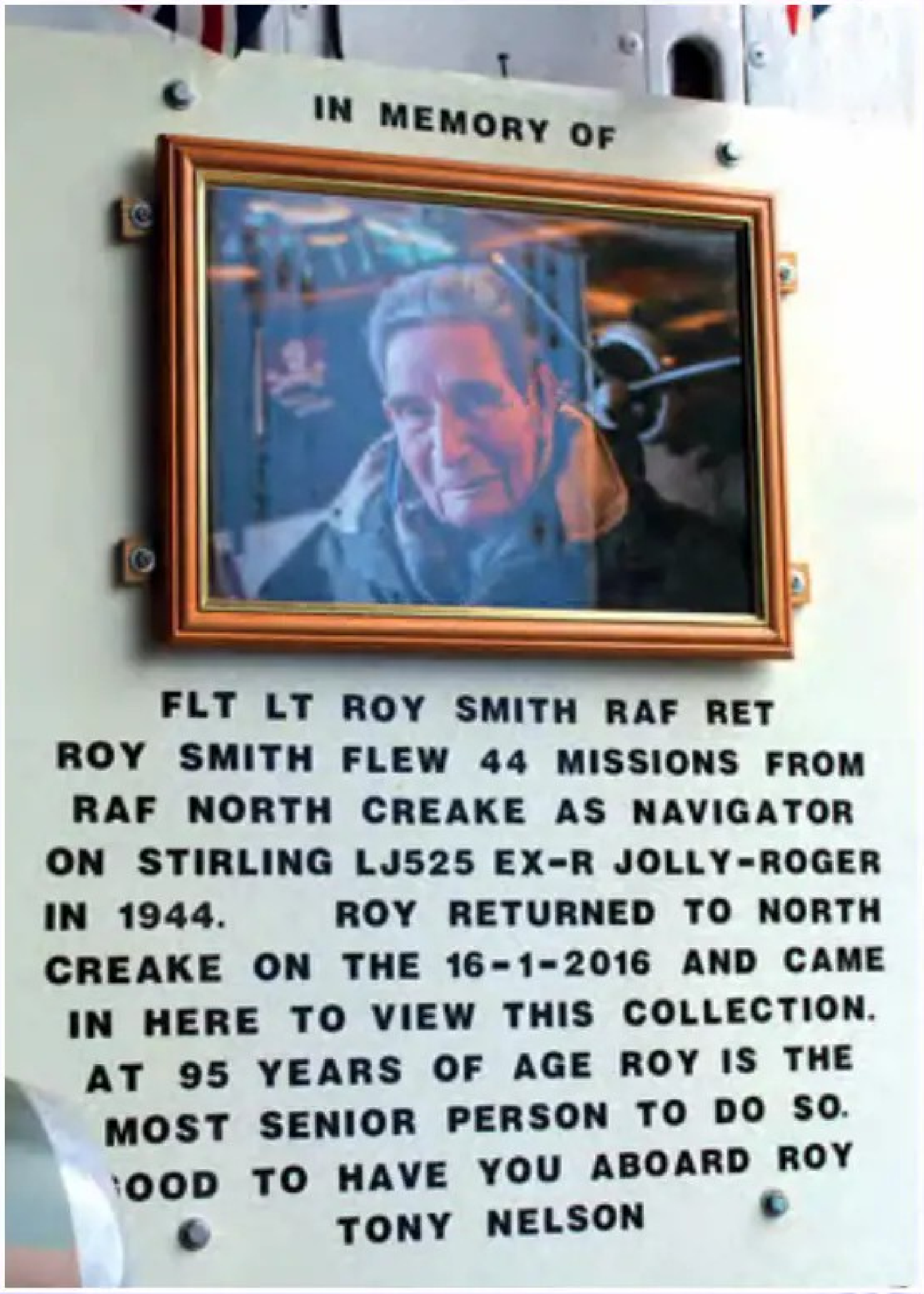
Tony's appearances at various shows has raised a huge amount of money for the Norfolk Air Ambulance.

EAMONN
MARION
SOPHIE
EMMA

Tony's loyal crew that assist him at shows, Eamonn, Marion, Sophie and Emma.



'The Boss'!



IN MEMORY OF

FLT LT ROY SMITH RAF RET
ROY SMITH FLEW 44 MISSIONS FROM
RAF NORTH CREAKE AS NAVIGATOR
ON STIRLING LJ525 EX-R JOLLY-ROGER
IN 1944. ROY RETURNED TO NORTH
CREAKE ON THE 16-1-2016 AND CAME
IN HERE TO VIEW THIS COLLECTION.
AT 95 YEARS OF AGE ROY IS THE
MOST SENIOR PERSON TO DO SO.
OOD TO HAVE YOU ABOARD ROY
TONY NELSON

Another poignant plaque in the trailer commemorates Flt Lt Roy Smith, RAF Ret, who returned to Norfolk in 2016 to view the collection, the 1/6th scale Stirling is modelled on the actual aircraft that Fly Lt Roy Smith was the navigator on.

Stunning photo by Shane Egan of Joe Harvey's SJ in flight

BMFA CONTROL LINE SPEED NATIONAL CHAMPIONSHIPS

BARTON MODEL FLYING CLUB - 5th, 6th, 7th September 2025

DICK HART REPORTS ON THE BMFA CONTROL LINE SPEED NATIONALS, HOSTED BY THE BARTON MODEL FLYING CLUB OVER THE FIRST WEEKEND OF SEPTEMBER

The Club members had made a superb job of preparing the site for the Competition and the facilities were in perfect shape. The weather was kind to us and the rain held off until midday on Sunday. It was warm, around 18C, with a breeze on Friday which freshened a little for Saturday. The humidity was around 64% with a Density Altitude of 824ft. The pressure was 1013 millibars and the Relative Air Density hovered around 97% for the weekend.

The weather plays a big part in Control Line Speed flying, the Relative Air Density in particular helping to decide a multitude of factors including propeller diameter and pitch, needle setting, and compression ratio for engine powered models. For the Pulse Jets, metering jet size and line guide position are the most important factors. As one might imagine, the effects of atmospheric conditions on these models is a debate that could, and should, fill a book!

There were 25 entries in 6 different classes and over 60 flights were made making the circle a busy place almost all of the time. Christine Watson did a great job with the Transitrace and also managed to keep us under control and the flying list orderly! There were two new records set, of which more later.

Andrew Watson takes a well-earned break.

Barrie Lever, 3rd F2A.

Dick 2nd sport jet.

ISJ right to left, Renato 1st, Paolo 2nd, Matthew 3rd.

Joe Gough receives his mug.

Ken 1st Sport Jet.

F2A

There were three entries in F2A and the flying was done on Saturday and Sunday. Paul Eisner made two flights on the Saturday at 297.3 and 298.2kph but the magic 300 eluded him in the wind. However, on the Sunday we made an early start because of the rain promised by midday and Paul pulled off a great 300.1 kph for the win.

Matthew Hart had acquired a HS15R powered F2A model from Peter Halman, as the Irvine 15R powered model he had been using is now at least 25 years old. Even so, it was still going strong but it cannot compete with modern set ups. Under Peter's guidance Matthew made a shake down flight with the new model of 283.3kph following which Peter made a few adjustments, and Matthew went back into the circle for a follow up flight of 291.5kph. This is the fastest F2A flight he has ever made and so he was extremely pleased with this result for second place.

Barrie Lever has long harbored the desire to compete in F2A, and he had acquired a model from Ken Morrissey. It has been a very steep learning curve for Barrie, he has pushed himself hard to master the art of setting up an Irvine 15R powered F2A model and flying it at speed in the pylon. Fortunately for him it all came together on Saturday and after a number of attempts to get a good engine setting he recorded a great 253.1kph for third place.

12

This is the most popular class after Sport Jet and is the staple class besides F2A flown at Buckminster where Pulse Jets are not allowed. It can also be flown as PRR 12 (Personal Record Ratio) for the pilots who are learning the art of flying and competing in the pylon. The profile CMBL trainer from France makes a good introductory model and an F2A model can also be converted to this class. There were four entries in the class, three were converted F2A models and one was a CMBL trainer.

Peter and Paul are steadily increasing the outright record and the weekend saw the competition continue. Peter is recovering from a very recent knee operation so it was great to see him at the Nats, and in such good form. Paul was flying for him as it is way too early for Peter to attempt to run around the pylon. On Saturday Peter flew first for 156mph dead. Paul immediately came back with 156.9mph. Later Peter flew again for 158.7mph which is a new record at 101.4%. Paul then flew again for 157.1mph. On the Sunday morning Paul made a flight of 158.4mph for second place at 101.2 % of the record. Peter also had a flight, but could not improve on his record speed, returning 157.9mph.

Matthew was flying a modified F2A model originally built by Gordon Isles at least 25 years ago. He had flown it before on an APC prop but had fitted it with a single blade prop for the competition. Surprisingly it was hardly any faster, which probably means looking for a better single blader. His first flight was 139.5mph for third place, but then

Club speed
Lawrie Court 1st,
Malcolm Ross 3rd,
Ken Gordon Isles 2nd,
Len Morrall timekeeper.

his second flight was slower at 136.7mph. He discovered that his wing had come slightly loose which would account for the reduced speed.

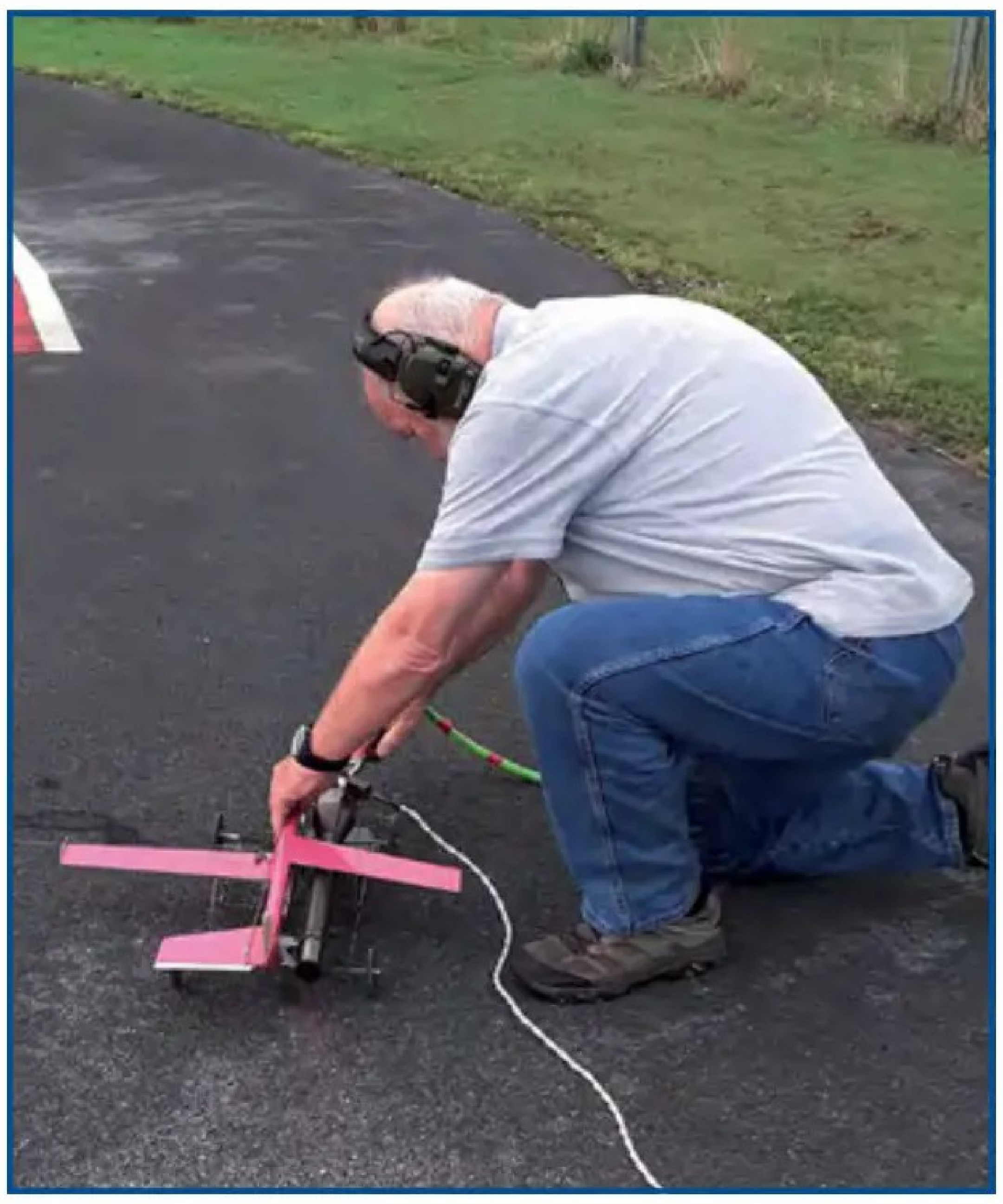
Tony Goodger had his car break down on the way up to Barton on the Thursday and after a good deal of negotiation over the phone managed to get a replacement hire car until his car is repaired. Notwithstanding this distraction, Tony was flying a CMBL trainer with an Irvine 12R engine (as, incidentally, were all of the 12 class competitors). He had previously recorded a flight of 62.7mph earlier in the season, but with a little know-how and assistance from Peter, Tony made flights of 98.1 and 96.8mph. On a PRR basis this represented an improvement of 105.1 % which is a commendable result.

Malcolm Ross had his K&B15 series 64 powered Pink Lady model which flies on the same line length as the 12 class so we let him have a go with it. Malcolm is of course an accomplished team race mechanic and pilot but has little experience of flying in the pylon. Nevertheless he was determined to record a time and used his first attempt on Saturday to get used to the pylon but couldn't stay in. With true grit and determination he then went back out, stayed in the pylon, and made a great flight at 114.6mph. This model flies beautifully, it was originally for monoline and designed by Bill Wisniewski in the early 1960's. It won the World Championships in 1964. Paul Eisner also has a monoline replica which flies equally well if not better than the two-line version.

29

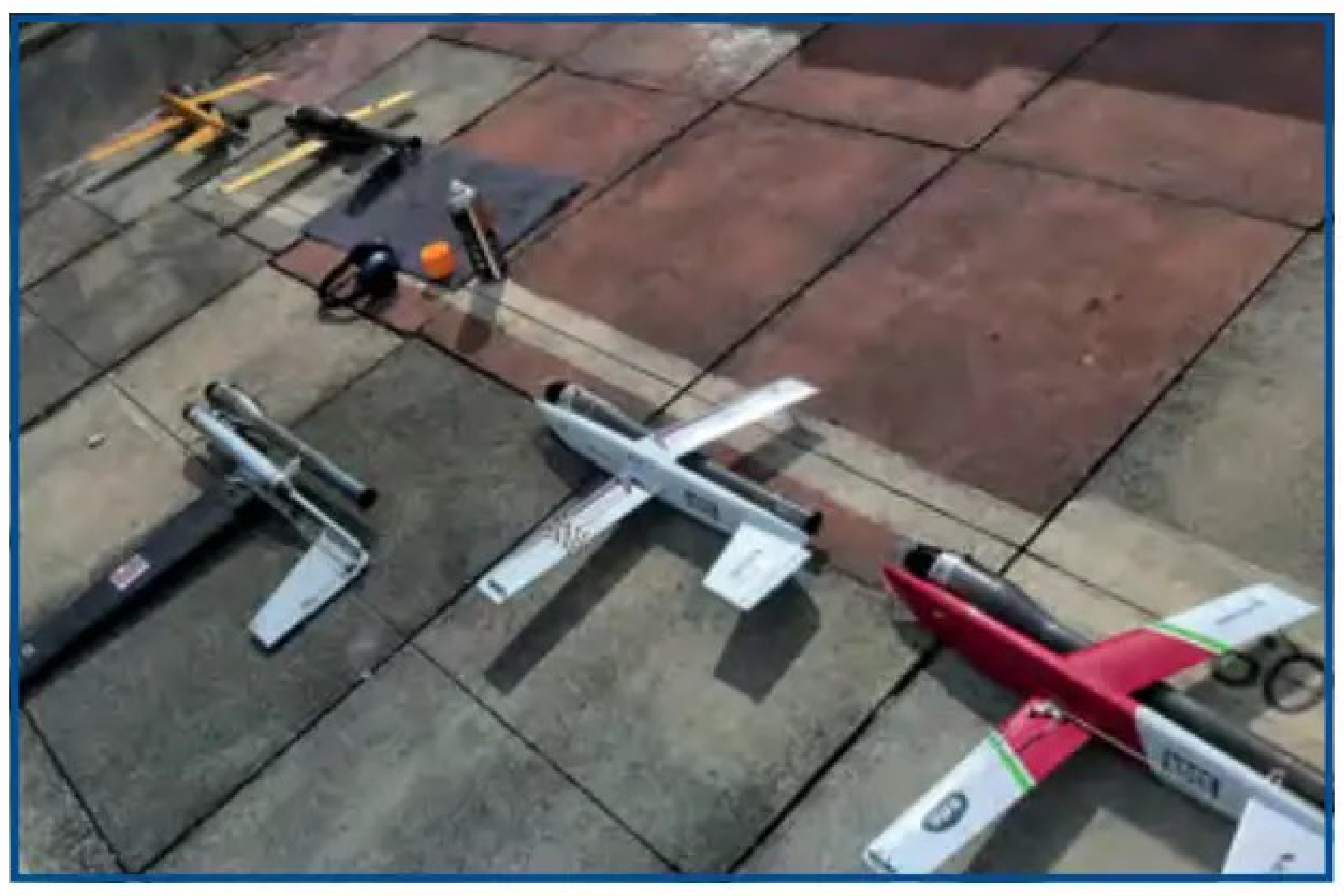
Matthew Hart has an OPS 29 powered asymmetric model built by Chris Martindale. It has been previously flown on nitro fuel at around 150 mph. However, the Italians are proposing a 29 class in Italy to run straight fuel on F2A length lines, (more later). Matthew made a couple of practice flights on straight fuel to get a setting and to see how the engine responded to the pipe. He then made a couple of official flights on Saturday, first 134.5mph on an APC 7x6 and then 142.3mph on an APC 7x8. The tank is way too big, doing team race laps without a shut off, which it surely needs.

Nevertheless, the model has potential on the shorter F2A lines and remains a work in progress.


Dick starts Joe Gough's sidewinder sport jet.

Joe and Dick fuel Matthew's sport jet.

Joe Harvey releases his sport Jet.

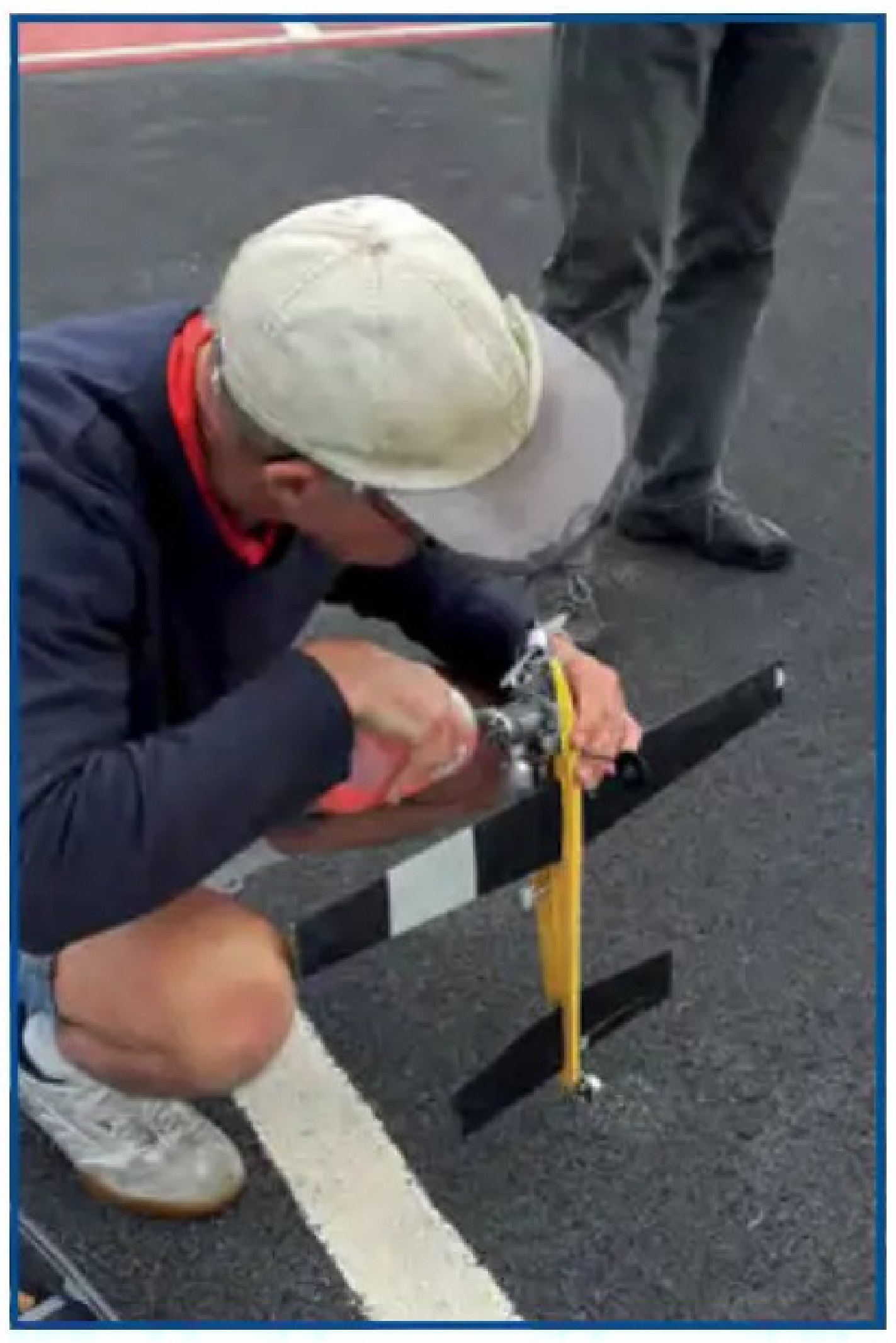

Ken's winning sport jet dominates the pits.

Ken presents Len with his mug for running Club Speed.

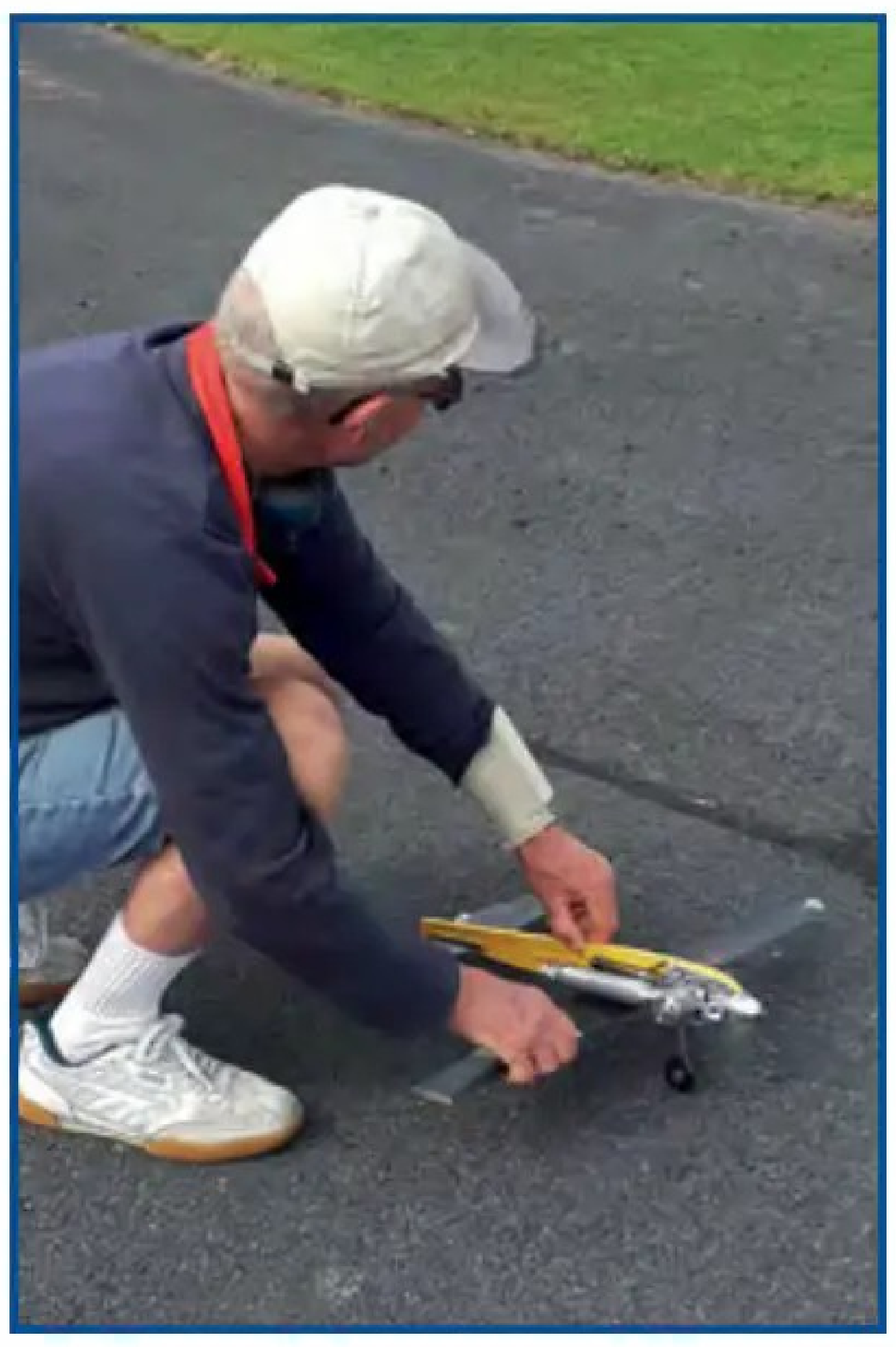
Matthew, 2nd F2A.

Paolo prepares his second place ISJ.

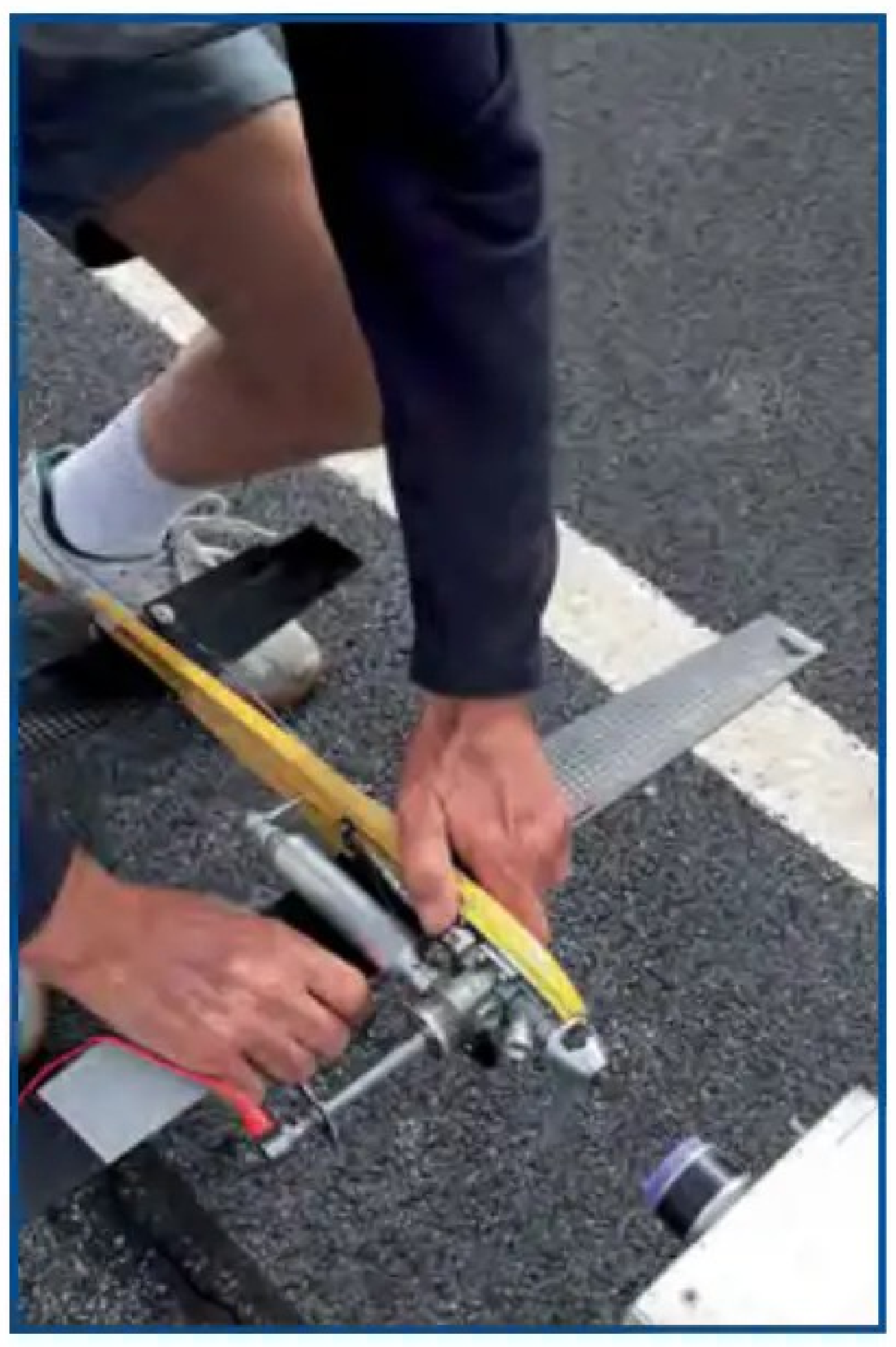
Paul Eisner, 1st F2A.



Paul fuels Tony's 12 model.

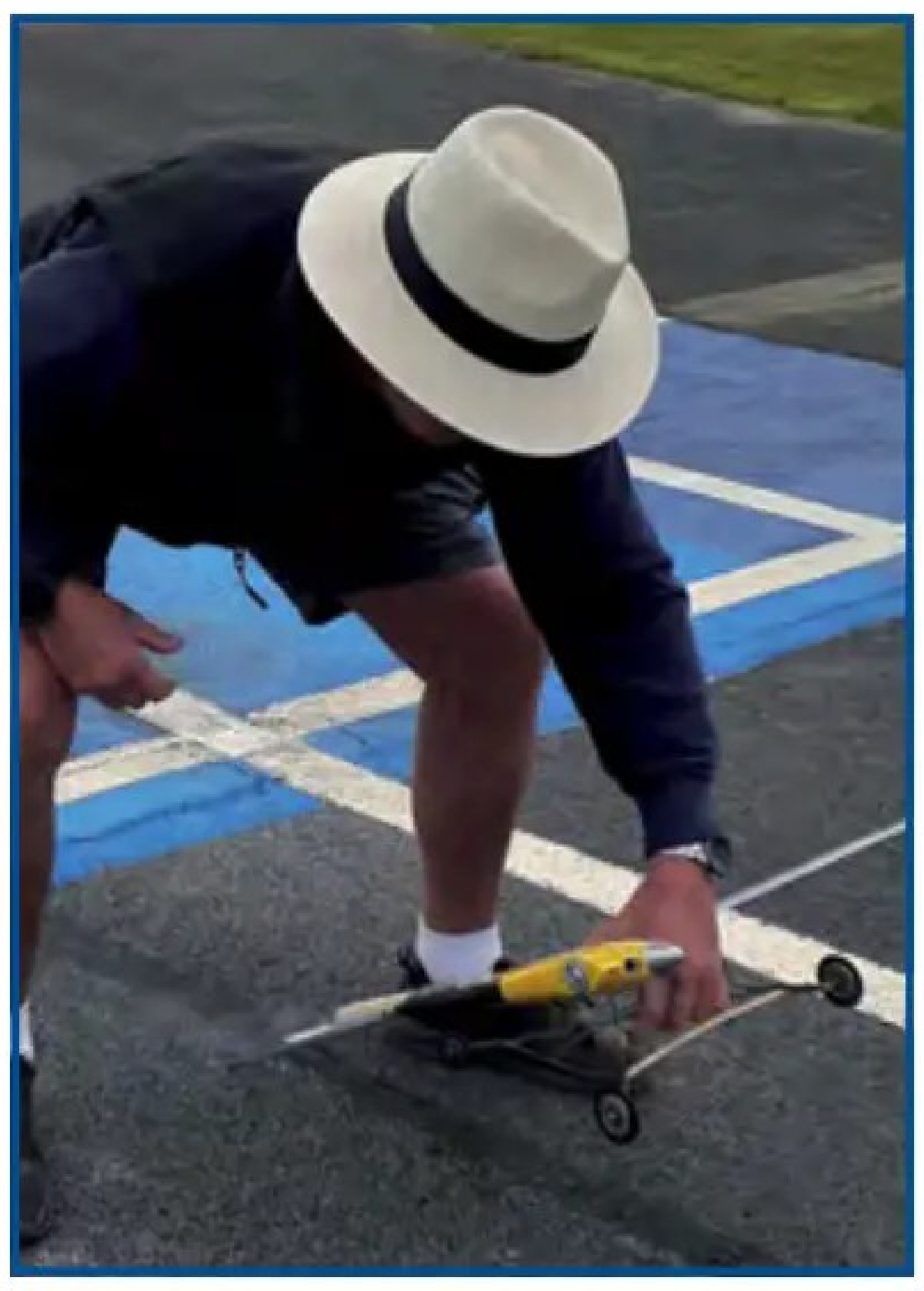


Paul launches Tony's 12 profile model.



Paul starts Tony's 12 model.

Peter in thought having set a new 12 record.



Peter releases Paul's winning F2A model.

Peter sets Paul's winning F2A model.

SPORT JET

This is the most popular speed class. It is flown throughout the season at Barton and has a regular and very competitive following. Although Sport Jet engines are no longer made by any manufacturer there are still plenty of them lurking on shelves around the country. Engines that meet the rules include Dynajet, Bailey Sport Jet, Jet Bill Sport Jet, PCPJ Sport Jet, HobbyKing Red Head, and Dick Hart has plenty of spare parts available. There were ten entries, with 26 practice and official flights over the three days burning over two gallons of 80:20 methanol/nitromethane sport jet fuel.

There were a number of practice flights on the Friday and Matthew made an official run of 135.4mph. Andrew Watson then made a run of 141.8mph. On Saturday the flights came fast and furious with Matthew 134.8mph, Ken 146.1,146.5,146.1mph, Andrew 130.1,143.6mph, Dick 136.3, 145.9, 146.1mph, Renato Durigon 120.3mph (Dick's fault because he did not tighten the adjustable lead-out guide and it ran all the way to the rear in flight), Barrie 143.0 and 140.6mph, Steve Simpson 145.2,146.0, 145.2mph, Joe Gough 131.2mph, Joe Harvey (flying his Dad's model) 137.4, 140.5, 141.3mph, Paolo del Bianco 137.5mph.

The pilot duties were shared between Matthew, Paolo, Barrie and Joe who all did a tireless job. Steve Simpson was campaigning a brand-new model built by Barrie Lever, which in truth was only finished on the Friday morning at Barton. It flew brilliantly right off the board for third place, and Dick only pipped him for second place by 0.1 mph. First place in Sport Jet went to Ken Morrissey whose model is now a testament to the healing power of JB Weld, having developed a tank leak on Friday which Ken repaired overnight with the magic stuff. Joe Gough desperately wanted to compete with an upright model he had built some years before, but he has had no luck at all getting it off the ground. No matter how hard he tries, it will insist on running in on take-off. It really does have a mind of its own. In the end he was persuaded to fly a sidewinder. We will continue to help Joe get that model into the air, it will fly one day!

ITALIAN SPORT JET

Let's discuss this class for a minute or two and explain how we arrived at this class. Timing for almost all of the BMFA Speed classes is over 1 kilometer (the only exception is the 0.049 class). 12 is over 10 laps with a line length of 15.92m; F2A, 15 and 21 are over 9 laps with a line length of 17.69m, and everything else is over 8 laps with a line length of 19.9m. When we were able to fly on MOD sites with either a parade ground or a runway, or on abandoned airfield sites, this all worked just fine. However, these days the only dedicated flying site in the UK with a circle big enough to safely accommodate open speed classes on 19.9m lines is Barton. As far as I know most of the TR/Speed circles in Europe, including Buckminster, are sized for F2 TR/Speed competition with line length up to 17.69m.

As a result the Italians, who can be quite inventive, decided to introduce some classes in Italy other than F2 but using the F2 line length because of their circle size limit. The first of these is Italian Sport Jet which was introduced by Gruppo Hangar 82 (a model flying club) at Mortegliano, Udine. Barrie, Matthew and I decided that it might be good fun to take the Italians on, and so we have attended their World Cup event for the last two years where one of the events besides F2A is Italian Sport Jet. Essentially our Sport Jets but running petrol fuel and on 17.69m lines. To help us practice the Italian rules were adapted and adopted by the BMFA as a class.

We are very used to running our jets on our 80:20 Sport Jet fuel, but finding the right setting for E5 petrol is an art form. Unlike our metering system where we use individual jets that go in 0.001thou increments, they use a variable metering jet. Renato Durigon sets his by blowing through the metering jet and tuning it. They call him "Strawberry Lips" because he is pretty good at it! Nevertheless, Matthew has come second each time although Dick and Barrie have never yet had a good run, but we will keep trying because we are certain we will succeed eventually.

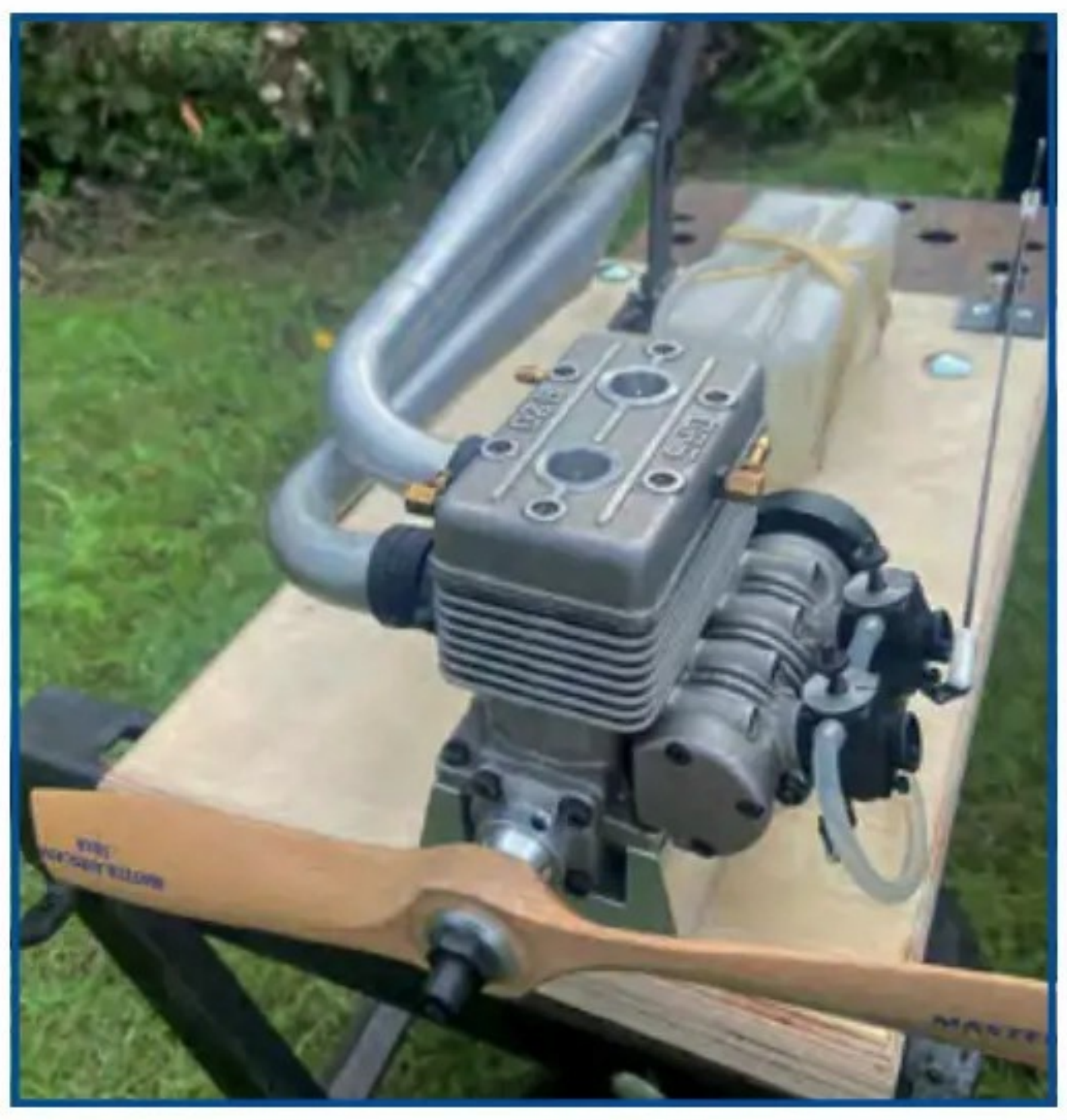
During discussions after the Nationals presentations at Barton this year, another F2 line length class was proposed by Paolo which is to have a 2.51 to 5cc class on straight fuel, running a pipe or a super silencer using the same

Renato and Paolo try UK Sport Jet.

Renato Durigon Handicap winner and ISJ record setter.

Steve Simpson 3rd sport jet.

Renato launches the record holding ISJ model.



Steve Simpson's amazing OPS B20 twin cylinder inline 20cc engine.

line diameter as the Italian Sport Jets (0.5mm). The assembled company was generally in favour, and so we will work with our Italian friends to come up with some rules for adoption here and in Italy. It will help us here in the UK because it will be another class that can be flown at Buckminster.

Anyway, back to the competition, Renato was first up on Friday but even with his "Strawberry Lips" could not get a running setting, the Manchester weather is a lot different to what they are used to and the engines needed a richer setting. He came back for a second run later and recorded 151mph, a new record by 1mph. On Saturday Renato made a second run, this time at 152.7mph, 101.8% of the record and fast enough not only to win Italian Sport Jet but also to win the Handicap. Paolo then made a respectable run of 147.3mph for second place. On Sunday Paolo made another flight for 146.1mph, and Matthew flew 140.2mph for third place.

FAST JET

Sadly there was only one run in this class and unfortunately the Transitrace sensor had not been moved out from the 12 class position so not only could it not properly time the flight, when the model was landing it hit the protective cover which bounced the model into the centre of the circle. Fortunately, the model had slowed down a lot after two glide laps and there was no real damage to it although as Contest Director, I felt rather foolish for overlooking such an elementary check. What numbers we did get indicated an airspeed of around 205 to 208 mph.

This was on the Friday, and Matthew had another go with a different model on Sunday but unusually the model ran in on take-off. He then piloted for Barrie with his Fast Jet and unbelievably exactly the same thing happened to his model. The conclusion is that there might be something wrong with the dolly, the same one was used for both launches, or we were trying to take off in the wrong wind segment, or a combination of the two. We do not fly Fast Jet as often these days, the launch acceleration is vicious and likely amplifies any deficiencies in the launch process. Lack of practice starting and launching will not have helped. Anyway, no real damage to the models, just bruised egos.

Renato also had a World Record Challenge model with him which he wanted to test. It is on 19.9m lines and so it is almost impossible to fly it anywhere except Barton. It is basically a larger version of their usual Sport Jet design. The engine is a Zanin Z23 which has a larger combustion chamber than the usual Zanin Z26, and although the heads are interchangeable, the Z23 venturi is larger than the Z26. The Z23 combustion chamber has a diameter of 80mm which is the FAI mandated limit for this record class. The model was running on petrol and started easily, however Paolo who was piloting reported some instability in flight and the speed was only 122.2mph.

A word or two about the FAI regulations for World Record Flights as they pertain to Control Line Pulse Jets. As already mentioned, the jet is only limited by the diameter of the combustion chamber to 80mm. There are no restrictions as to lines, as long as they withstand the pull test. However, if the model is to be flown on monoline, the entire twist mechanism has to be behind the yoke, meaning that only a lighting fast contortionist could manage to successfully fly the model. That means a two-line approach is favoured, and groupers are acceptable. The principle limiting factor is that the model weight including fuel, divided by the total projected area must not exceed 100 grams per square decimeter. As the fuel load is about 100 grams for petrol or over 200 grams for a nitro fuel mix, this alone can add one to two square decimeters to the area. A 1 kg model is difficult to achieve when it has to have an area of 12 square decimeters to account for the fuel. Nevertheless Barrie, Ken, Dick and Matthew are working on a new approach for another record attempt in the future.

BARTON CLUB SPEED

Barton has for many years run a Club speed event on a Saturday alongside the Centralized speed meetings. It is flown over grass on 13.5m lines and timed over 10 laps. The models are limited to 1.5cc plain bearing or single ball race with a commercial prop. The PRR formula originated here, where each contestant tries to go faster than they have ever gone before so that the winner is the entrant with the highest percentage on the day.

Len Morrall is the chief timekeeper and Derek Heaton looks after the record keeping. Derek could not be with us at the Nats, so Len and Andrew Watson looked after the shop. There were four entries; Ken Morrissey came fourth at 92mph, 92.5% PRR. Malcolm Ross came third with the fastest speed of the day, 95.29mph, 95.3% PRR. Gordon Isles came second with 94.39mph, 99.8% PRR and the winner was Lawrie Court with 89.12mph which was 103.3% of his PRR.

OPS B20

Steve Simpson had brought along one of two OPS B20 engines he owns and he and Barrie ran it up during lunch on Saturday. It is a two cylinder in line 20cc glow motor intended for boat applications. Gualtiero Picco of OPS and later Picco engine fame designed and built the prototype during a brief vacation in 1974. These are rare engines and to see one running is very exciting for an engine nut. These things scream!

Prizegiving and wrap up.

As the rain closed the Competition for us at noon on Sunday, the prizegiving was held out of necessity in the club house. This year the Barton Club gave every entrant to the Nationals an embroidered polo shirt and baseball cap, and everyone that recorded a flight received a commemorative mug.

BMFA Medals were awarded for first second and third places in F2A to Paul Eisner, Matthew Hart and Barrie Lever respectively, and also in Handicap Speed to Renato Durigon, Peter Halman and Paul Eisner respectively. Barton Club also gave first, second and third medals in Sport Jet to Ken Morrissey, Dick Hart and Steve Simpson respectively; also for Italian Sport Jet to Renato Durigon, Paolo Del Bianco and Matthew Hart respectively.

It only remained for everyone to pack up their stuff and say their goodbyes, Fortunately the heaviest of the downpour had passed by the time we had stopped talking in the clubhouse so no one got completely soaked!

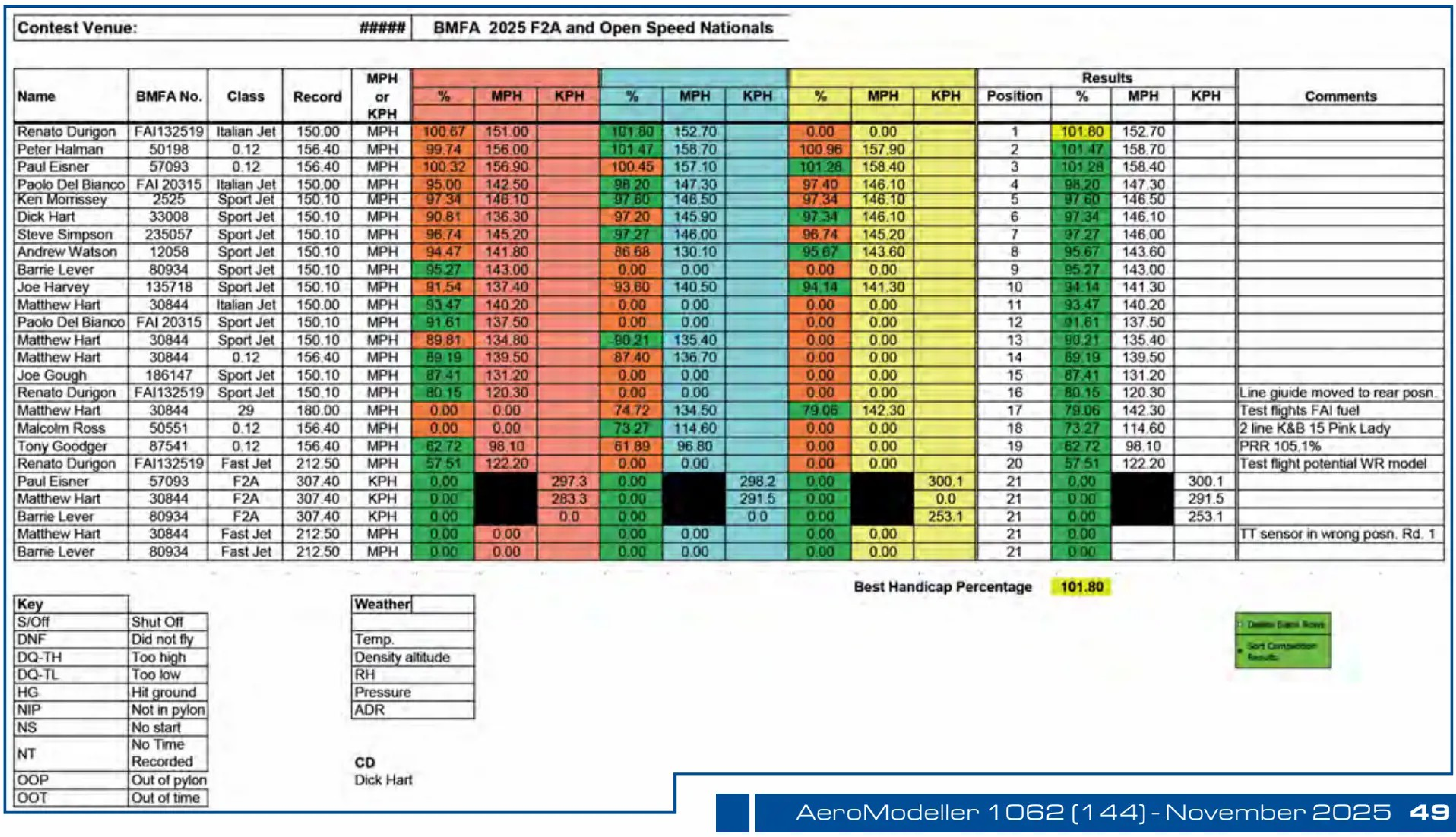
It was good to see our friends from Italy come to Barton and compete so well, and it will be great to welcome them and others back to Barton in the future. Hopefully some of us will be able to return the compliment at their Modigliano World cup event next June. A number of us took them to the Black Swan in Warrington on the Friday evening for a traditional pub meal which was very relaxing and enjoyable.

A great big thank you from all the participants to the members of the Barton Club who worked so hard to get the flying field in such great shape, also for the support they provided for the smooth running of the event and for the prizes and additional medals. A special thank you to Christine Watson for running the flying list and the Transitrace, she did a splendid job. Also big thanks to Alessandra Bonotto who did all of the translation for Paolo and Renato.

Record Notifications have been made online to the BMFA for Peter's new record in Open 12 and Renato's new record in Italian Sport Jet.

Photo credits Shane Egan, Andrew Watson, Barrie Lever, Dick Hart, Malcolm Ross.

Richard Hart Contest Director
Britintexas66@gmail.com ■



Contest Venue: ##### **BMFA 2025 F2A and Open Speed Nationals**

Name	BMFA No.	Class	Record	MPH or KPH	%	MPH	KPH	%	MPH	KPH	%	MPH	KPH	Results Position	%	MPH	KPH	Comments
Renato Durigon	FAI132519	Italian Jet	150.00	MPH	100.67	151.00		101.80	152.70		0.00	0.00		1	101.80	152.70		
Peter Halman	50198	0.12	156.40	MPH	99.74	156.00		101.47	158.70		100.96	157.90		2	101.47	158.70		
Paul Eisner	57093	0.12	156.40	MPH	100.32	156.90		100.45	157.10		101.28	158.40		3	101.28	158.40		
Paolo Del Bianco	FAI 20315	Italian Jet	150.00	MPH	95.00	142.50		98.20	147.30		97.40	146.10		4	98.20	147.30		
Ken Morrissey	2525	Sport Jet	150.10	MPH	97.34	146.10		97.60	146.50		97.34	146.10		5	97.60	146.50		
Dick Hart	33008	Sport Jet	150.10	MPH	90.81	136.30		97.20	145.90		97.34	146.10		6	97.34	146.10		
Steve Simpson	235057	Sport Jet	150.10	MPH	96.74	145.20		97.27	146.00		96.74	145.20		7	97.27	146.00		
Andrew Watson	12058	Sport Jet	150.10	MPH	94.47	141.80		86.68	130.10		95.67	143.60		8	95.67	143.60		
Barrie Lever	80934	Sport Jet	150.10	MPH	95.27	143.00		0.00	0.00		0.00	0.00		9	95.27	143.00		
Joe Harvey	135718	Sport Jet	150.10	MPH	91.54	137.40		93.60	140.50		94.14	141.30		10	94.14	141.30		
Matthew Hart	30844	Italian Jet	150.00	MPH	93.47	140.20		0.00	0.00		0.00	0.00		11	93.47	140.20		
Paolo Del Bianco	FAI 20315	Sport Jet	150.10	MPH	91.61	137.50		0.00	0.00		0.00	0.00		12	91.61	137.50		
Matthew Hart	30844	Sport Jet	150.10	MPH	89.81	134.80		90.21	135.40		0.00	0.00		13	90.21	135.40		
Matthew Hart	30844	0.12	156.40	MPH	89.19	139.50		87.40	136.70		0.00	0.00		14	89.19	139.50		
Joe Gough	186147	Sport Jet	150.10	MPH	87.41	131.20		0.00	0.00		0.00	0.00		15	87.41	131.20		
Renato Durigon	FAI132519	Sport Jet	150.10	MPH	80.15	120.30		0.00	0.00		0.00	0.00		16	80.15	120.30		Line giuide moved to rear posn.
Matthew Hart	30844	29	180.00	MPH	0.00	0.00		74.72	134.50		79.06	142.30		17	79.06	142.30		Test flights FAI fuel
Malcolm Ross	50551	0.12	156.40	MPH	0.00	0.00		73.27	114.60		0.00	0.00		18	73.27	114.60		2 line K&B 15 Pink Lady
Tony Goodger	87541	0.12	156.40	MPH	62.72	98.10		61.89	96.80		0.00	0.00		19	62.72	98.10		PRR 105.1%
Renato Durigon	FAI132519	Fast Jet	212.50	MPH	57.51	122.20		0.00	0.00		0.00	0.00		20	57.51	122.20		Test flight potential WR model
Paul Eisner	57093	F2A	307.40	KPH	0.00		297.3	0.00		298.2	0.00		300.1	21	0.00		300.1	
Matthew Hart	30844	F2A	307.40	KPH	0.00		283.3	0.00		291.5	0.00		0.0	21	0.00		291.5	
Barrie Lever	80934	F2A	307.40	KPH	0.00		0.0	0.00		0.0	0.00		253.1	21	0.00		253.1	
Matthew Hart	30844	Fast Jet	212.50	MPH	0.00	0.00		0.00	0.00		0.00	0.00		21	0.00			TT sensor in wrong posn. Rd. 1
Barrie Lever	80934	Fast Jet	212.50	MPH	0.00	0.00		0.00	0.00		0.00	0.00		21	0.00			

Best Handicap Percentage 101.80

Key	
S/Off	Shut Off
DNF	Did not fly
DQ-TH	Too high
DQ-TL	Too low
HG	Hit ground
NIP	Not in pylon
NS	No start
NT	No Time Recorded
OOP	Out of pylon
OOT	Out of time

Weather
Temp.
Density altitude
RH
Pressure
ADR

CD
Dick Hart

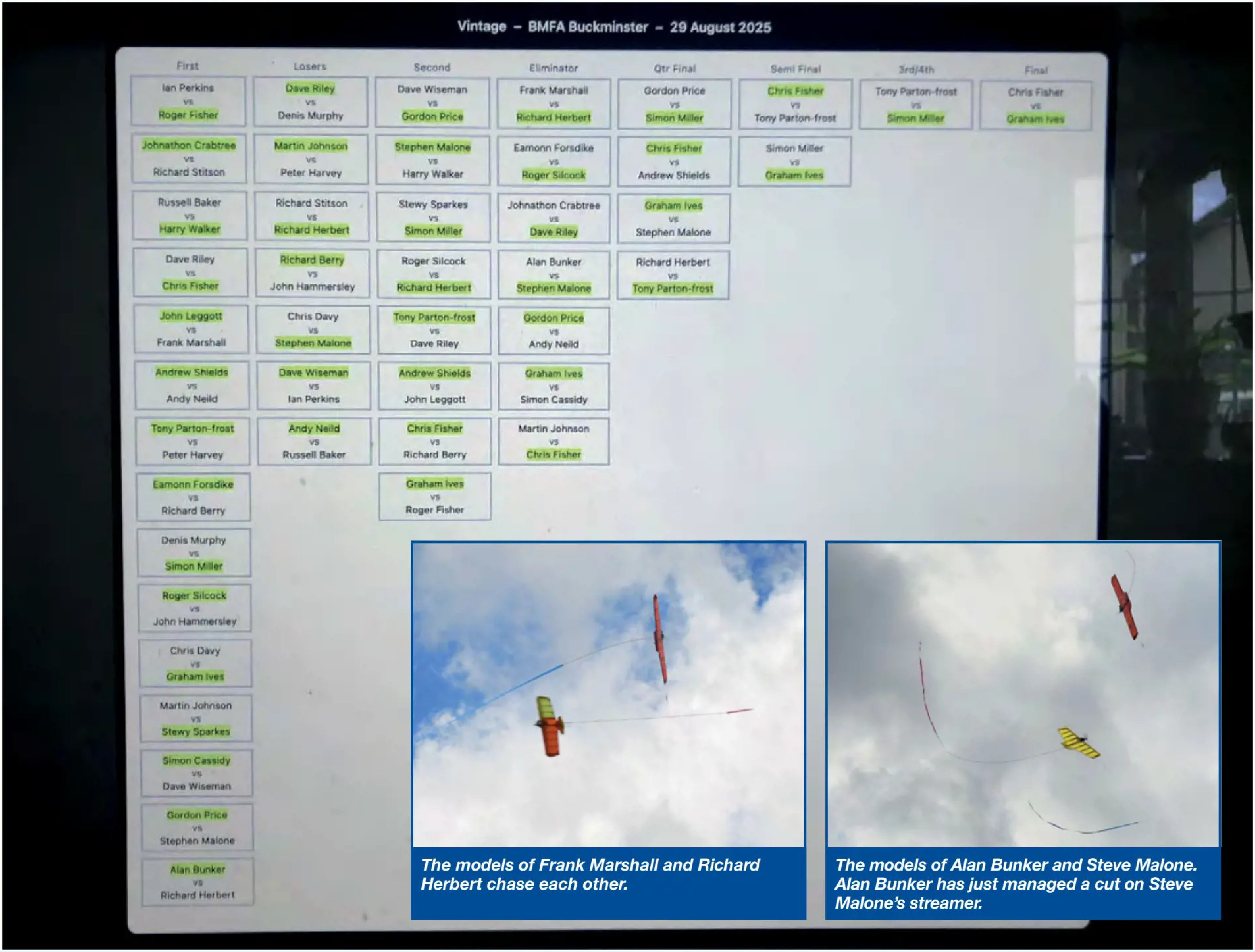
Frank Marshall (Basildon) left v Richard Herbert (SECA) watched by centre marshal Ian Perkins.

British Nationals Vintage Combat Competition

DENIS MURPHY REPORTS FROM BMFA BUCKMINSTER ON THE 2025 VINTAGE COMBAT COMPETITION, HELD ON FRIDAY 29TH AUGUST, WHERE THE WEATHER WAS ALMOST PERFECT

The three days planned for CL Combat were at the mercy of the weather. Luckily Vintage was the first class to be flown on the Friday where weather conditions were almost perfect. Very little wind, overcast sky with sun occasionally breaking through, and no rain!

There was a healthy entry of 30 competitors. This meant that two circles would be used in the first round, Losers, Eliminator and further rounds would then take place in a single circle.



Vintage – BMFA Buckminster – 29 August 2025

First	Losers	Second	Eliminator	Qtr Final	Semi Final	3rd/4th	Final
Ian Perkins vs Roger Fisher	Dave Riley vs Denis Murphy	Dave Wiseman vs Gordon Price	Frank Marshall vs Richard Herbert	Gordon Price vs Simon Miller	Chris Fisher vs Tony Parton-frost	Tony Parton-frost vs Simon Miller	Chris Fisher vs Graham Ives
Johnathon Crabtree vs Richard Stitson	Martin Johnson vs Peter Harvey	Stephen Malone vs Harry Walker	Eamonn Forsdike vs Roger Silcock	Chris Fisher vs Andrew Shields	Simon Miller vs Graham Ives		
Russell Baker vs Harry Walker	Richard Stitson vs Richard Herbert	Stewy Sparkes vs Simon Miller	Johnathon Crabtree vs Dave Riley	Graham Ives vs Stephen Malone			
Dave Riley vs Chris Fisher	Richard Berry vs John Hammersley	Roger Silcock vs Richard Herbert	Alan Bunker vs Stephen Malone	Richard Herbert vs Tony Parton-frost			
John Leggott vs Frank Marshall	Chris Davy vs Stephen Malone	Tony Parton-frost vs Dave Riley	Gordon Price vs Andy Neild				
Andrew Shields vs Andy Neild	Dave Wiseman vs Ian Perkins	Andrew Shields vs John Leggott	Graham Ives vs Simon Cassidy				
Tony Parton-frost vs Peter Harvey	Andy Neild vs Russell Baker	Chris Fisher vs Richard Berry	Martin Johnson vs Chris Fisher				
Eamonn Forsdike vs Richard Berry		Graham Ives vs Roger Fisher					
Denis Murphy vs Simon Miller							
Roger Silcock vs John Hammersley							
Chris Davy vs Graham Ives							
Martin Johnson vs Stewy Sparkes							
Simon Cassidy vs Dave Wiseman							
Gordon Price vs Stephen Malone							
Alan Bunker vs Richard Herbert							

The models of Frank Marshall and Richard Herbert chase each other.

The models of Alan Bunker and Steve Malone. Alan Bunker has just managed a cut on Steve Malone's streamer.

Vintage Nationals 2025 Results – The full results table.

FIRST ROUND

At most Vintage competitions it is fairly easy to predict who the likely winners and losers will be in the first round. Not so at this competition due to the quality of the flying.

Quite a few "big" names ended up flying in the Loser's round, designed to give all flyers the chance of at least two bouts each. Groans were heard from those used to flying in the loser's round having to fly some top quality flyers, including your scribe!

The first of the top flyers to go through to the loser's round was Dave Riley (NOVOS) after succumbing to Chris Fisher(SECA) in an entertaining bout.

Dave Wiseman(Feltham), competing in Vintage after having flown mainly F2D for the last few seasons, was beaten by Simon Cassidy who flew under the HAWKS club banner, although based in Italy. A cut and thrust bout between Gordon Price (NOVOS), fresh from his World F2D success, and Veteran Steve Malone (NMAS/Outlaws), who recently won an event at South Bristol, saw a win for Gordon by two cuts to one. Perhaps the biggest surprise was seeing multi Nationals winner Richard Herbert (SECA) lose to a very experienced and lighter in weight Alan Bunker (NOVOS).

LOSER'S ROUND

The bout between Andy Neild (South Bristol) and Russell Baker (NOTTS) was most notable for its carnage. Andy was two cuts to nil up when an almighty mid-air occurred, resulting in major damage to both flyers motors (PARRA T4's). A broken crankcase around the venturi for Andy and a broken crankcase near the front bearing and a broken crankshaft for Russell. A very costly three minutes for both flyers.

Making an appearance after many years, John Hammersley (NMAS/Outlaws), famous for wearing a t-shirt with the slogan, "I'd rather eat worms than use a diesel" due to using glow motors,

Tony Parton-Frost shows off the damage to his model after his semi - final bout with Chris Fisher during Vintage Combat Nationals held at BMFA Buckminster on Friday 29th August 2025.

Blast from the past, Moggs Morris left and Richard Evans.

Golden Oldies, L/R Vernon Hunt, Richard Evans and legendary Oliver engine tuner George Copeman.

Three of team SECA, L\R Roger Fisher, Simon Miller and Chris Fisher.

Richard Herbert launches the model of SECA teammate Roger Fisher in his bout with Ian Perkins.

Ian Perkins refuels his model watched by SBMAC pitmen Stewy Sparks left and Tony Parton-Frost.

Team NOVOS l/r Martin Johnson, Graham Ives and Dave Riley.

was in fact flying a diesel powered model and sporting a new t-shirt with the slogan “I Eat Worms”! John’s model flew much better in his bout with Richard Berry(HAWKS) after pitman Steve Malone “turned in his needle valve by one and a half turns”. Unfortunately, that was the end of John’s Nationals return.

The surprise names in the Loser’s round, Riley, Wiseman, Herbert and Malone all won their bouts to continue to the second round.

The memorable bouts in the second round were Price v Wiseman, Malone v Walker, Silcock v Herbert and Parton–Frost v Riley. The bout between Gordon Price (NOVOS) v Dave Wiseman(Feltham) was a pretty robust affair. Imagine two people dressed in fat suits charging at each other! Centre Marshall Ian Perkins did well to keep the peace. At one point, Dave had hold of Gordon’s model in the centre circle after he was unable to continue, with lines wrapping around his legs and Dave jumping over them like a skipping rope! Prior to these shenanigans Dave was deemed to have carried out an illegal manoeuvre when re – launching after a crash and was therefore disqualified. Steve Malone (NMAS/Outlaws) faced a returning Harry Walker (AC/DC). It was a great bout to watch with Steve like a tortoise, steady and calculating and Harry racing around the circle F2D style like a startled hare. The Tortoise eventually beat the Hare. Veteran Roger Silcock (South Bristol) was up against the GOAT, Richard Herbert(SECA). Roger has recently upgraded his kit after a few basic failures last season, and how it showed. Roger flew out of his skin and made it very

Dave Riley launches the model of Graham Ives in the Final v Chris Fisher.

Dave Riley launches the model of NOVOS teammate Graham Ives.

Chris Davy (Hawks) left v Graham Ives (Novos).

Stewy Sparkes (SBMAC(left v Martin Johnson (Novos).

The final between Chris Fisher left and Graham Ives watched by centre marshal Alan Bunker.

Chris Davy launches the model of HAWKS teammate Peter Harvey with John Leggott on streamer duty.

Dave Wiseman starts his own motor watched by pitmen Alan Bunker left and Harry Walker.

difficult for Richard, in what was probably the best bout of the day. Richard used all his experience to sneak the win by a single cut. A nice second round bout between Tony Parton-Frost (South Bristol) and Dave Riley (NOVOS) ensued. Both top pilot's going for the win. As often happens when two good pilots meet, there is often an anti-climax to the bout. With Tony one cut up, a big mid-air saw Dave unable to continue after losing his fuel tank, whereas Tony's pit team were able to patch up his model and get back into the air for the win.

ELIMINATOR ROUND

The Eliminator round to get down to the final eight for the quarter finals resulted in an interesting bout between two top flyer's, Dave Riley (NOVOS) and John Crabtree (HAWKS). Some great flying ensued, but with the scores level, John's model lost line tension from overhead and came into the circle hitting Jonathon fair and square in the Crown Jewels! Although going down like a bullet, he fortunately did not need any medical attention, although there were cries of "Nurse" to be heard. The bout was stopped and was re-scheduled to the end of round. Johnathon is allegedly putting in a rule change to the next AGM proposing that cricket boxes be mandatory pilot equipment. Looking forward to the vote on that one! Steve Malone (NMAS/Outlaws) came from behind v Alan Bunker (NOVOS) in a very tight bout by 2 cuts to 1. The resumed bout between John Crabtree(HAWKS) v Dave Riley (NOVOS)resulted in a win for Dave who took one cut. Johnathon suffered a lot of ground time due to engine issues at the start of the bout.

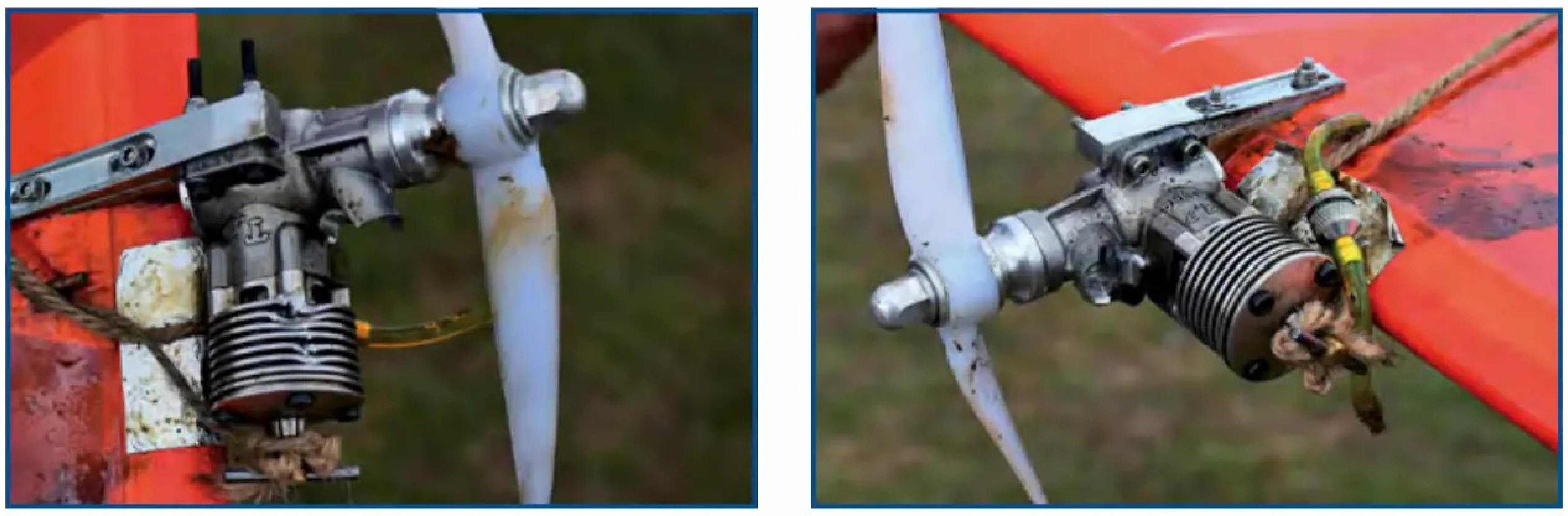
Ian Bunker launches the model of Dave Wiseman as Harry Walker watches on.

ichard Herbert (SECA) left attempts to untangle his lines v Tony Parton-Frost with centre marshal Alan Bunker looking on.

John Crabtree launches the model of Hawks teammate Chris Davy.

Dave Wiseman left v Ian Perkins watched by centre marshal Gordon Price.

Tony Parton-Frost launches the damaged model of South Bristol teammate Ian Perkins as Stewy Sparkes watches on.



The Parra T4 motor belonging to Andy Neild suffered major damage in his bout with Russell Baker.

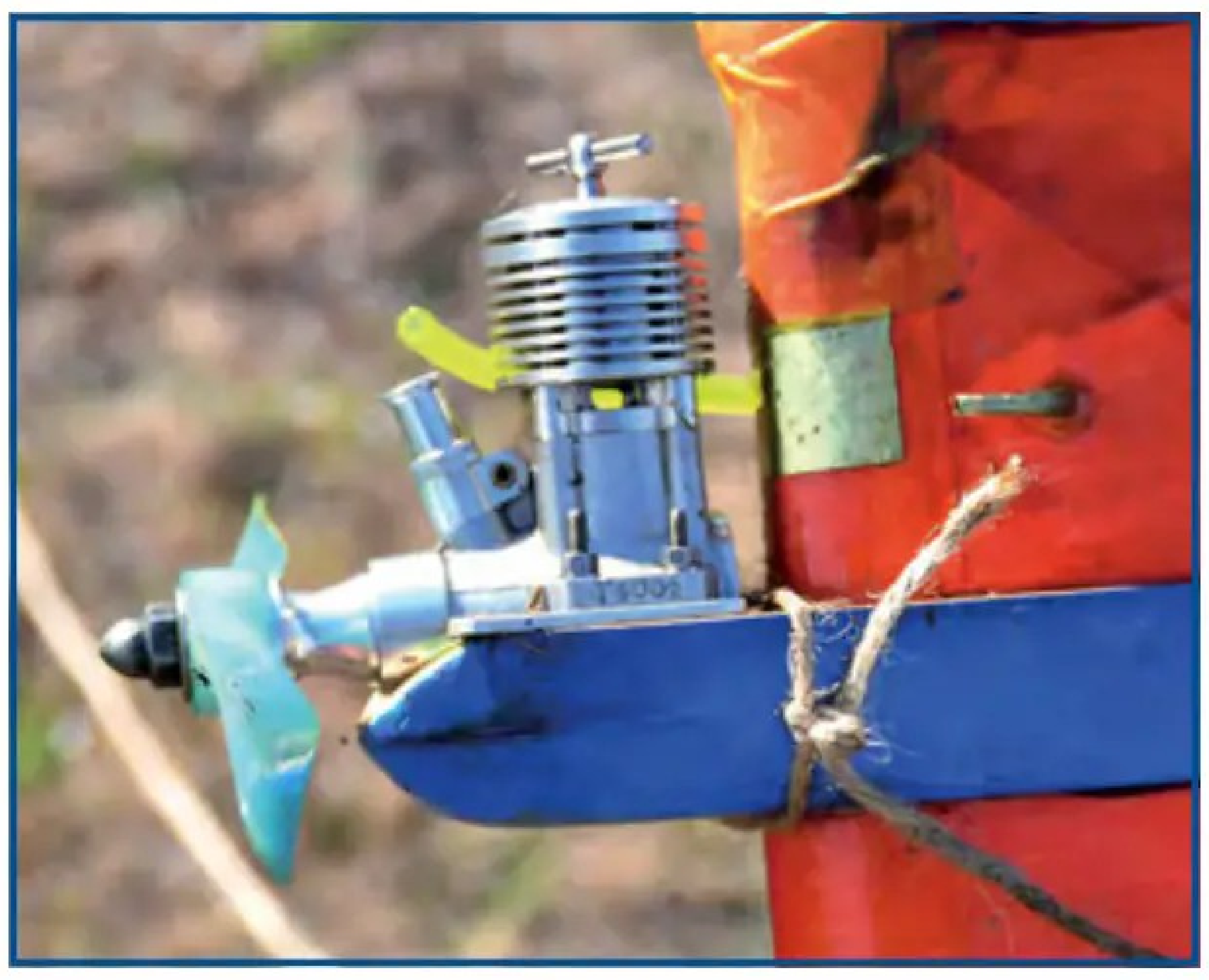
John Crabtree launches the model of Hawks teammate Richard Berry.

Richard Berry (Hawks) left v John Hammersley watched by centre marshal Gordon Price.

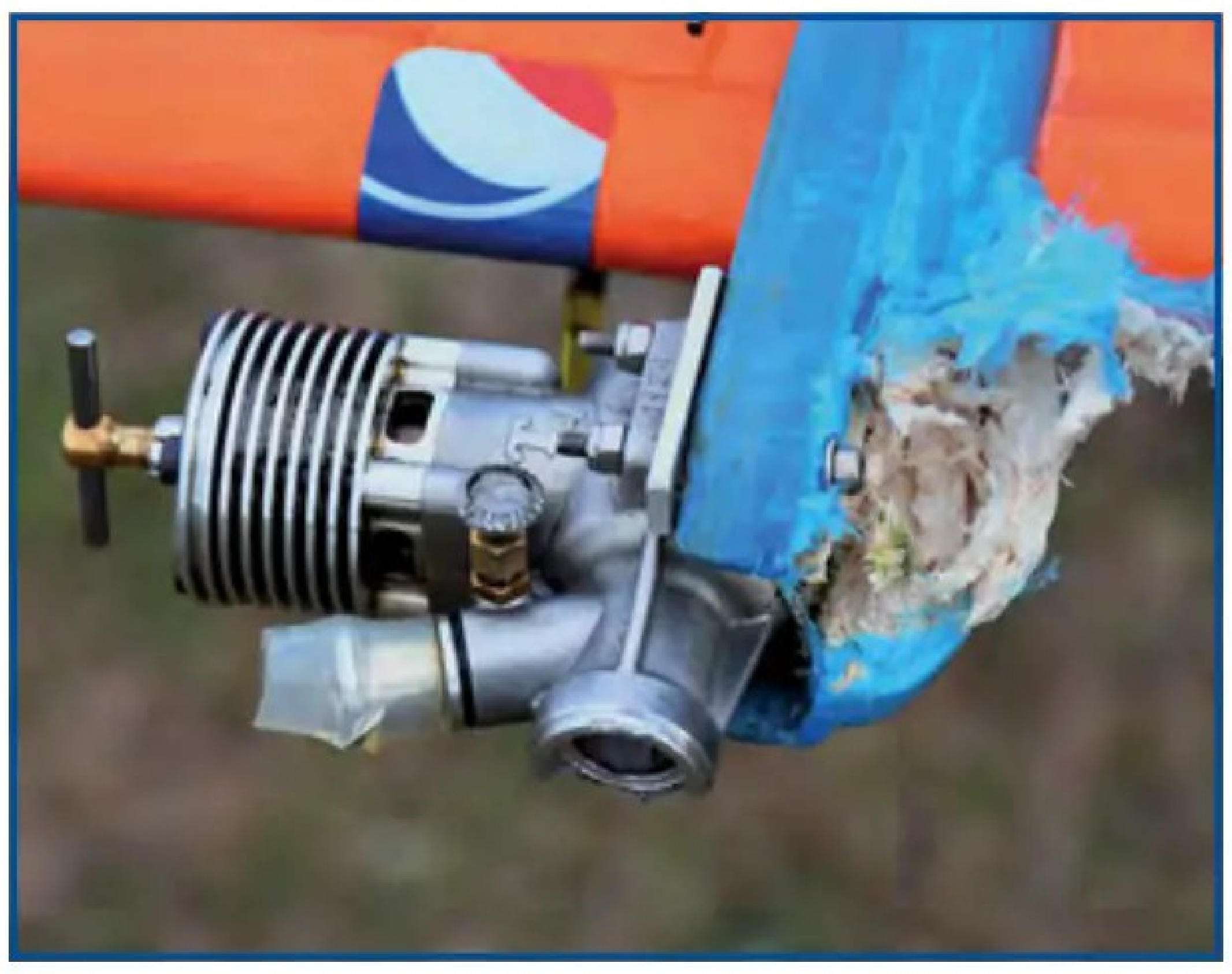
Tony Parton-Frost launches the model of SBMAC teammate Ian Perkins in his bout with Roger Fisher.

Dave Wiseman left holds the model of Gordon Price as he finishes his bout prior to being disqualified for an illegal manoeuvre.

The model of Joh Hammersley is about to hit the ground after a mid air with Richard Berry as pit crew Simon Groom and Steve Mason watch on.



A broken needle valve on Steve Malone's engine forced him to retire against Graham Ives.



The Parra T4 motor belonging to Russel Baker suffered major damage, broken crankcase and crankshaft, in his bout with Andy Neild.

QUARTER FINALS

- Simon Miller (SECA) v Gordon Price (NOVOS) 1 cut all, then a mid-air demolished both models, Simon winning on ground time.
- Chris Fisher (SECA) v Andrew Shields (NOVOS) no cuts were taken, Andrew hitting the ground on several occasions, Chris winning on ground time.
- Graham Ives (NOVOS) v Steve Malone (NMAS/Outlaws) no cuts were taken, but Steve's model hit the ground hard and was unable to continue. A win for Graham.
- Tony Parton-Frost (South Bristol) v Richard Herbert (SECA) Richard took 1 cut before a mid-air ensued. This resulted in Richard's Elevator horn being completely torn off and unable to continue. A win for Tony.

SEMI FINAL

- Graham Ives(NOVOS) v Simon Miller (SECA) Simon lost a few points of ground time at the start of the bout due to a sick motor. Despite his pit crew's best endeavours, his motor never really got going 100%, enabling Graham to take a single cut to win. And a place in the Final.
- Tony Parton-Frost (South Bristol) v Chris Fisher(SECA) Tony opted to use a new model/motor combination, Piranha/Rothwell for this bout. It proved to be his undoing as his motor never really got going, resulting in an underpowered model. Chris took every advantage of this and was able to take 2 cuts and a place in the final.

THIRD AND FOURTH PLACE FLY OFF

- Simon Miller (SECA) v Tony Parton-Frost (South Bristol) Pretty even, with no cuts taken before a massive mid-air, Simon's model was ok and Tony's was totally trashed. Simon took Third place and Tony Fourth.

THE FINAL

- Graham Ives (NOVOS) v Chris Fisher (SECA). As often happens in Vintage Combat Finals, they are an anti-climax. This was no different. With no cuts being taken there was a massive mid-air resulting in Chris being unable to continue, therefore handing the win to Graham. A bit disappointing, but congratulations to Graham on his first ever Nationals Vintage win.

CONCLUSIONS

A great first day of competition, excellent weather conditions and some great flying. The standard of flying is such now, that on any one day, with a pinch of luck, anyone can win. Models used were pretty much those used throughout the season, Njuurds, Piranhas, Supermonger's combined with Rothwell, Parra T4 and K12/19 motors. Steve Malone used an Oliver JO19/R420 motor, but no other Oliver motors were used. They apparently take a fair bit of running to get them to their full potential, so maybe it will be next season before we see them used competitively.

Many thanks to those people from the CFA who organised the event, Buckminster for hosting, and also to all those individuals who performed Centre Marshall and Scoring duties. Without you there would be no event. Here's to next year. ■

Winner Graham Ives from the NOVOS club.

Winners L/R Gordon Price, Dave Riley, winner Graham Ives, runner up Chris Fisher, Richard Herbert,Roger Fisher and Third placed Simon Miller.

MODEL
CRAFT

LIMITED TIME AEROMODELLER SUBSCRIPTION OFFER!

SUBSCRIBE TODAY AND RECEIVE A VERY SPECIAL GIFT WORTH OVER £30 INCLUDING POSTAGE

We have teamed up with our friends at Model Craft tools and Shesto to offer this useful tool set that included a craft knife, cutting matt, 3 clamps, tweezers and spare blades.

By subscribing you will receive the magazine before it is in the shops, it costs less and you help us keep AeroModeller being published!

FREE GIFT WORTH £30!

MODEL CRAFT

*** Terms and conditions**

You must be aged 18 and over to be eligible for the Deluxe offer. While stocks last.
Customers attempting to take out this offer after all stock is gone will be contacted before any money is taken.
Subscriptions taken out with this offer will not be refunded if cancelled.

MODEL
CRAFT

ISSUE 1035
FREE PLAN: TWICE SIZE FROG SENIOR WIDGEON RC
AERO MODELLER
OPEN & FAI FF NATIONALS
KMD 2.5CC FI DIESEL
CL CARRIER DECK
SEE PAGE 56
SENIOR SERVICE!
BODDO'S SUPER-SIZED FROG WIDGEON
VMC PILOT BUILD • RADIO QUEEN DIARY • IRVINE 12 FOR CL SPEED • OLIVER COMBAT • MORE…

ISSUE 1039
FREE PLAN : CURRIE WOT
AERO MODELLER
AVIATION BOOK REVIEWS
NEW SCALE MATTERS COLUMN
WINTER EVENTS CALENDAR
FF TEAM REPORT
SEE PAGE 58
UK CL NATIONALS REPORTS
WORLD FF CHAMPS - PART 2
INDOOR UPDATES • VOETSAK RACERS • FESTIVAL OF FLIGHT • MORE…

ISSUE 1036
FREE PLAN: 13" SPAN FF SE5A
AERO MODELLER
MINI FF NATIONALS
FF SCALE NATIONALS
DENNIS ALLEN ENGINES
SEE PAGE 56
FOAM PEANUT!
SKYWRITING SE5A
VMC FROG SENIORS REVIEW • CLAPA CHAMPS • BOWDEN TROPHY • PINK LADY SPEED • MORE…

TAKE OUT A 2 YEAR SUBSCRIPTION ONLINE AT

WWW.DOOLITTLEMEDIA.COM
OR CALL 01525 222573

24 ISSUE AEROMODELLER SUBSCRIPTION

First name ....

Surname ....

Address ....

....

....

....

Country.. **Post/zip code** ....

Telephone Number..

Email ....

☐ **Please tick to confirm that you are aged 18 or over**

2 year subscription:- UK; £150, Europe; £200, Worldwide; £230

Renewal/Extension ☐ New Subscription ☐ Starting with issue No.........................

Please debit my credit/debit card for £...............................

Please be aware that all credit/debit cards are processed through PayPal and this may appear on your bank statement

Visa ☐ Mastercard ☐ Maestro ☐ Cheque ☐

Payable to **Doolittle Media Ltd.**

Card number: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ ☐☐

Maestro only

Expiry date.................... Valid from.................... CCV Code.................... Issue No...........

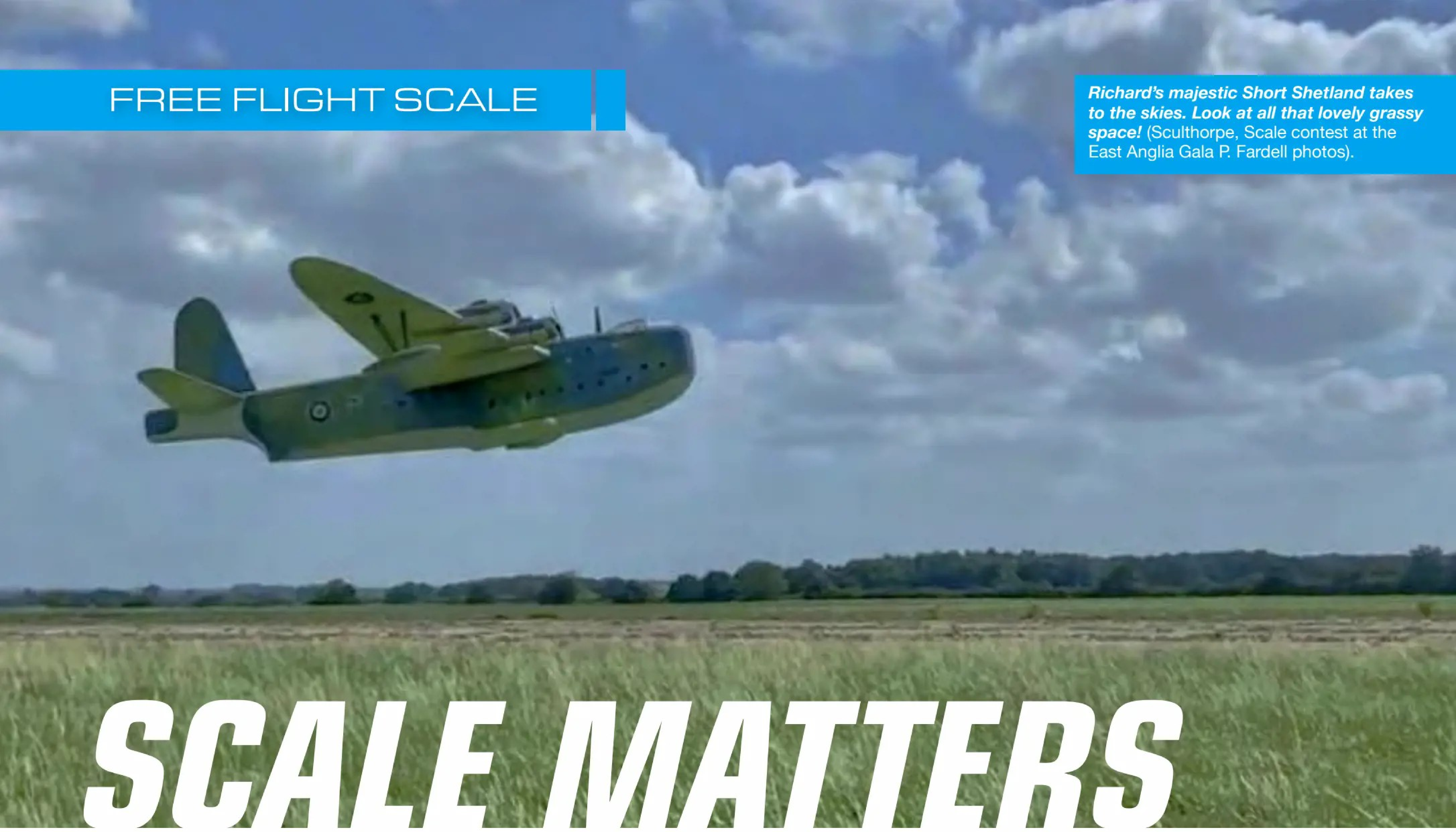
3 digits on the signature strip

If applicable

Signature.. Date..

Please call our subscription line or mail this form, or a copy, to;
Doolittle Media, The Granary, Doolittle Lane, Totternhoe, Beds, LU6 1QX
Tel; +44(0)1525 222573 **Online;** www.doolittlemedia.com
(Photocopies of this form are acceptable)

IF THIS OFFER ISN'T FOR YOU REGULAR 1 YEAR SUBSCRIPTIONS ARE STILL AVAILABLE - ONLINE AT WWW.DOOLITTLEMEDIA.COM OR CALL 01525 222573



Richard's majestic Short Shetland takes to the skies. Look at all that lovely grassy space! (Sculthorpe, Scale contest at the East Anglia Gala P. Fardell photos).

SCALE MATTERS 'SCALETHORPE'

THIS MONTH PETE FARDELL COVERS TWO MEETINGS AT A NEW VENUE FOR FREE FLIGHT SCALE, MOD SCULTHORPE IN EAST ANGLIA, WITH THE FREE NATIONALS REPORT COURTESY OF MIKE SMITH.

Any world leaders currently wrestling with international crises and wondering who to send on vital diplomacy missions would do well to consider Mr Michael Smith. This man simply refuses to recognise the term "lost cause". So, while others may look at the disheartening and ongoing loss of so many of our big outdoor flying sites with dismay, Mike prefers to roll up his sleeves and see what can be done about it. Consequently, after some very productive negotiations with the good folk on the FFTC, it looks as if RAF Sculthorpe in Norfolk has now gained a foothold as an ongoing venue in our scale contest calendar. I urge everyone who can to make the most of it. "Use it or lose it!" as the saying goes.

August saw two opportunities for Scale flyers at this lovely big airfield, both piggy-backing on FF events that were already scheduled to take place there. These were the East Anglian FF Gala, and the FF Nationals a couple of weeks later.

FF2 SCALE FREE FLIGHT AT THE EAST ANGLIAN GALA, SCULTHORPE, AUG 10TH 2025.

REPORT BY PETE FARDELL

It was very gratifying to see Richard Crossley prised out of his lair for the Sculthorpe meeting. This was Richard's first ever outdoor competition, which is rather surprising considering he's been entering and winning indoor competitions for several decades! He has of course often flown his models outdoors too, but never in an actual contest apparently. He arrived in style in his beautifully restored Vauxhall Velox, and by the time I got there was already trimming out his Polikarpov Rata, which you may remember was a bit confined in the Indoor Nationals hall at Walsall. Very good to see it spreading its wings over open grass. He also had his huge electric Short Shetland with him, and his still new rubber Piper Pawnee, both of which he duly entered in the Flying Only FF2 scale comp which was run by Mike Smith. There was a bit of a breeze but it was eminently flyable with some useful lulls, so I entered my old Blériot as well as my Stinson Sentinel. Daniel Rackstraw was the third entrant adding a bit of zip to the proceedings with his reaction motored FW226 Flitzer, thus adding another power source to the mix. Mike Smith would have entered one of his diesel models as well, but that would have left no one to actually judge proceedings, which he did, yet again, with his customary aplomb.

In the end it came down to who got lucky with picking the quietest air, but we all got some nice flights in over the four rounds. Dan's Flitzer entertained, fizzing about menacingly at a good lick, and Richard's big Shetland which is super steady indoors looked superb outdoors too. It is an extremely light model though, and therefore susceptible to some breeze-induced wobbles that perhaps knocked just a few points of its flight score. His Pawnee was also looking

Richard Crossley's Polikarpov Rata being wound for a test flight. (Sculthorpe, Scale contest at the East Anglia Gala P. Fardell photos).

By entering two models each we ended up with a lovely varied line-up for the scale comp. (Sculthorpe, Scale contest at the East Anglia Gala P. Fardell photos).

Daniel Rackstraw's FW190 'Dora' was still being trimmed so not flown in the contest in the end. I love that very weathered finish. (Sculthorpe, Scale contest at the East Anglia Gala P. Fardell photos).

Richard Crossley's Vauxhall Velox is a suitably classy vehicle for his models… (Sculthorpe, Scale contest at the East Anglia Gala P. Fardell photos).

I was slightly worried that a wayward flight of my Stinson was going to ding the Velox's paintwork, but fortunately it landed just short. (Sculthorpe, Scale contest at the East Anglia Gala P. Fardell photos).

Dan Rackstraw's FW226 Flitzer performed well. From the Crossley plan I think. (Sculthorpe, Scale contest at the East Anglia Gala P. Fardell photos).

Richard and his Piper Pawnee, waiting for a lull. (Sculthorpe, Scale contest at the East Anglia Gala P. Fardell photos).

The Crossley Piper Pawnee up and away! A really superb flyer indoors and out. (Plan available from Richard's website: flightscale.co.uk). (Sculthorpe, Scale contest at the East Anglia Gala P. Fardell photos).

In a lucky patch of calmish air my Blériot won the day, and got quite high in the process. (Sculthorpe, Scale contest at the East Anglia Gala P. Fardell photos).

great too, but it saved its very best flight till after the competition ended. This meant that, ultimately, my slow-flying Blériot came out on top, finding calmer spells for its best flights and sometimes getting quite high too.

The person who went home with the biggest smile, however, was probably Mike Smith, because once his judging duties were over, he decided to see if his DH4 would take off from the runway. Although the '4 has flown a lot, and won a lot, he'd not had the opportunity to ROG it before. Well, he not only got a lovely smooth take off and flight, but also applied the icing to the cake with a tidy landing right back on the tarmac. Magic!

This flight and some of the others from the day can be seen in my video compilation called "Free Flight Scale at RAF Sculthorpe" that's on YouTube here: ***https://youtu.be/z6K37MWyAm4?si=ydVlJnfJwLzFK6Mf***

Neither I, nor Daniel nor Richard could make the next August meeting at this great site, but several other Scale aficionados could, and this time Mike Smith did get to compete himself. How did it go? I'll hand over to the man himself to find out…

Good grass for soft landings at Sculthorpe. Monsiuer B looks content. (Sculthorpe, Scale contest at the East Anglia Gala P. Fardell photos).

Mike Smith"s DH4 Mailplane goes from strength to strength…(Sculthorpe, Scale contest at the East Anglia Gala P. Fardell photos).

…Can he ROG it? (Spoiler: yes he can!). (Sculthorpe, Scale contest at the East Anglia Gala P. Fardell photos).

SCALE AT THE FREE FLIGHT NATIONALS, SCULTHORPE, AUG 23RD 2025. REPORT BY MIKE SMITH

In conjunction with the BMFA FFTC two Scale Free Flight trophy contests were held on the Saturday of the Nats at MOD Sculthorpe in Norfolk. A bit of a trip but it was well worth it on the day with ideal calm warm weather and space to fly as far as you could see, well almost.

Gathering for the scale contest at the FF Nationals. Sculthorpe, Scale contest at the FF Nationals (Mike Smith photos).

FF3 RUBBER PRECISION FOR THE SCALE OUTDOOR PRECISION CUP

We got ourselves established on the peri-track and flew the Rubber Precision contest first in a very light drift wind. Just as well, for as soon as we started the wind veered round somewhat in the direction of the Free Flight pits. We continued with the contest as we were only flying light rubber powered models with a thirty second flight target and did so without a problem.

Four of us competed, including Ricky Bould from New Zealand. The longest trip by far.

Flights were very varied and, as the result table shows, my well campaigned Aeronca Defender did its usual consistent flight time and came out top. Aeronca aeroplanes were popular and Ricky Bould came second with his Aeronca (I will get it in the overhead locker) Chief. In third place came Brian Waterland with his Rearwin Speedster. He looked quite the professional with winding stooge and tube. He had a bit of a mishap and broke his model with a most unfortunate "arrival". It looked terminal but us Scale lads are hard men and in a short while it was back together again.

JOHN ASHMOLE

During the contest Brian Waterland made a memorial flight with one of the late John Ashmole's Scale models, an Interstate Cadet. John will be missed. I liked the way he spoke and he managed to be sarcastic about Scale without giving any offence at all. Very amusing.

FF2 SCALE FREE FLIGHT FOR THE SELBY TROPHY

We thought it prudent to move camp with the wind change and moved to the other side of the airfield within a walk of the runway. The vegetation proved to be very high, wild and somewhat hostile to those that came with wrong trousers.

Five models were entered for this contest. The models were lined up and the two judges, Andy Green and Chris Grant, made their pre-flight assessment of the models for realism and workmanship. This addition to the Flying Only contest has worked well so far giving a modest

Ricky Bould tweaking his Aeronca Chief. The grass at our second camp was far less friendly. Sculthorpe, Scale contest at the FF Nationals (Mike Smith photos).

reward for those that make the effort to present a nice Scale model without discouraging the models that fly better than they look. If you have a Scale model that flies well you can be in the running for a podium place. Firstly, I failed miserably with my relatively heavy DH4. The flat calm conditions and very long grass, stingers and thistles did me no favours as I could not get the model away with sufficient airspeed. Tried two take-offs and only managed to ruin the tyres.

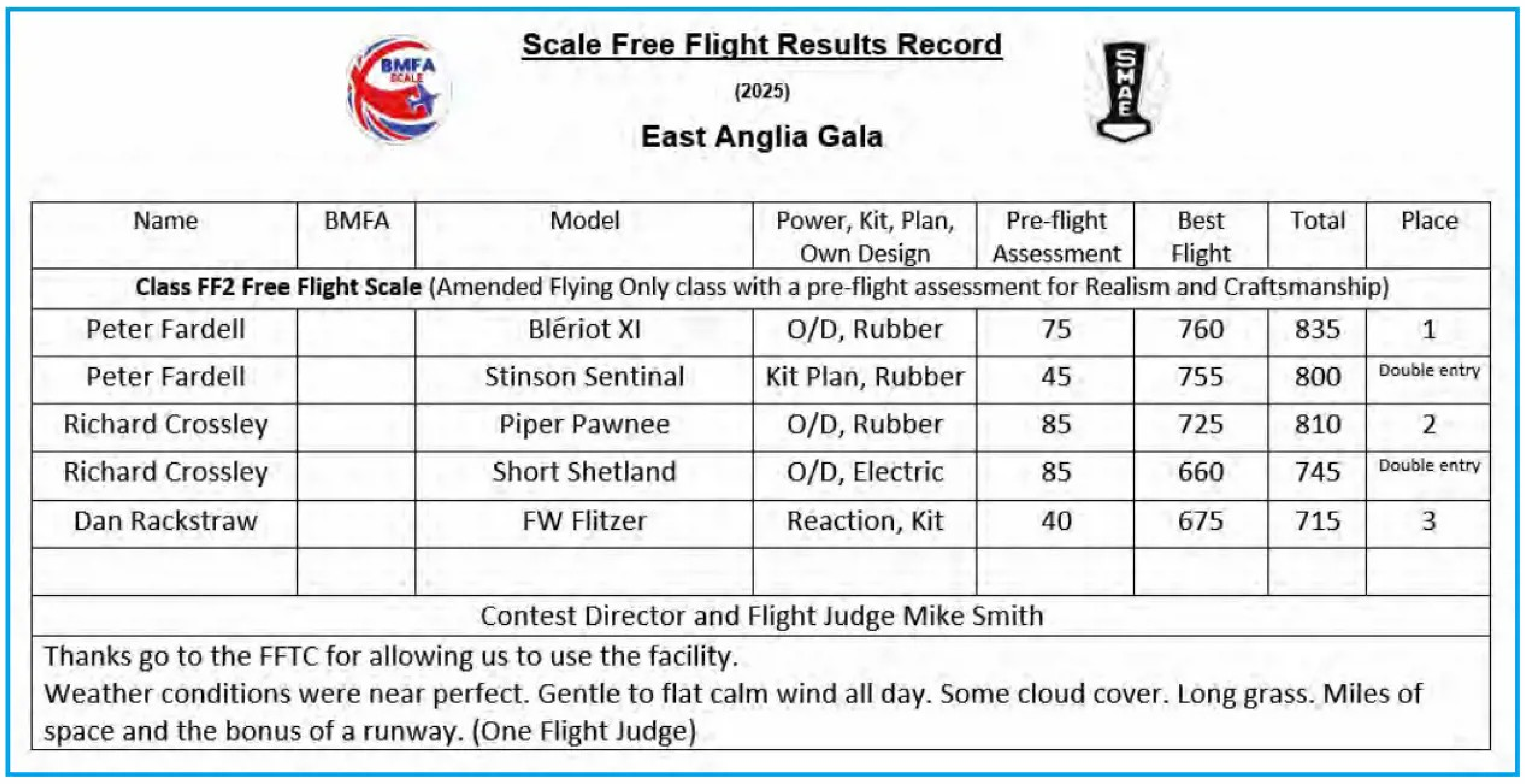
Ricky Bould kept the Aeronca theme going with his rubber powered Champ, managing three respectable flights from the four rounds allowed. In third place came returnee and local lad Nick Bosdet with the same BE12b he flew at the Nats some thirty years previously, and it looked like it. Dusty with floppy rigging but somehow very WW1ish. Nick was reluctant to fly the model but with a safety net of the long grass he hand launched into a most extraordinary flight. Slow and stable and then the comp-screw backed off and it burbled along most realistically. Why build a new one?

Charlie Jeffreys was second with his now well-known long flying and stable Rumpler Taube in the still air.

Top place was won by the “new-boy” Graham Banham with his remarkable and consistent flying Piper Cub. Slow realistic flight, again in still air, that really suited the light model. A joy to watch. His last flight was an R.O.G. as well. Very well done.

Thanks to everyone involved and that includes the onlookers. Spread the word.

Thanks, Mike, and I’ll second that: spread the word, and look out for more Scale flying opportunities at Sculthorpe in 2026! Vast empty space, Keil Kraft grass and a lovely long runway! What’s not to like?



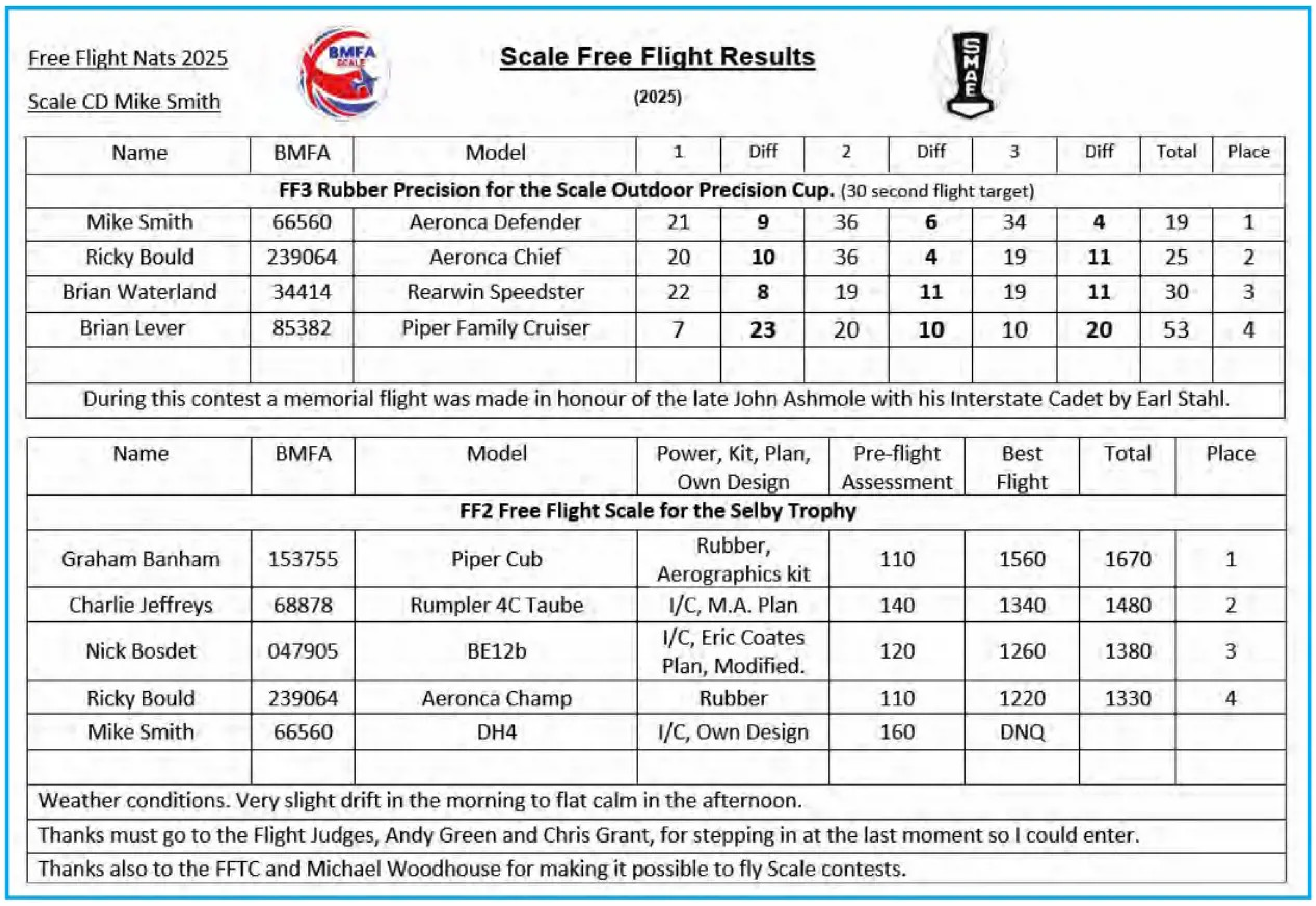
Scale Free Flight Results Record

(2025)

East Anglia Gala

Name	BMFA	Model	Power, Kit, Plan, Own Design	Pre-flight Assessment	Best Flight	Total	Place
Class FF2 Free Flight Scale (Amended Flying Only class with a pre-flight assessment for Realism and Craftsmanship)							
Peter Fardell		Blériot XI	O/D, Rubber	75	760	835	1
Peter Fardell		Stinson Sentinal	Kit Plan, Rubber	45	755	800	Double entry
Richard Crossley		Piper Pawnee	O/D, Rubber	85	725	810	2
Richard Crossley		Short Shetland	O/D, Electric	85	660	745	Double entry
Dan Rackstraw		FW Flitzer	Reaction, Kit	40	675	715	3
Contest Director and Flight Judge Mike Smith							

Thanks go to the FFTC for allowing us to use the facility.
Weather conditions were near perfect. Gentle to flat calm wind all day. Some cloud cover. Long grass. Miles of space and the bonus of a runway. (One Flight Judge)



Free Flight Nats 2025

Scale CD Mike Smith

Scale Free Flight Results

(2025)

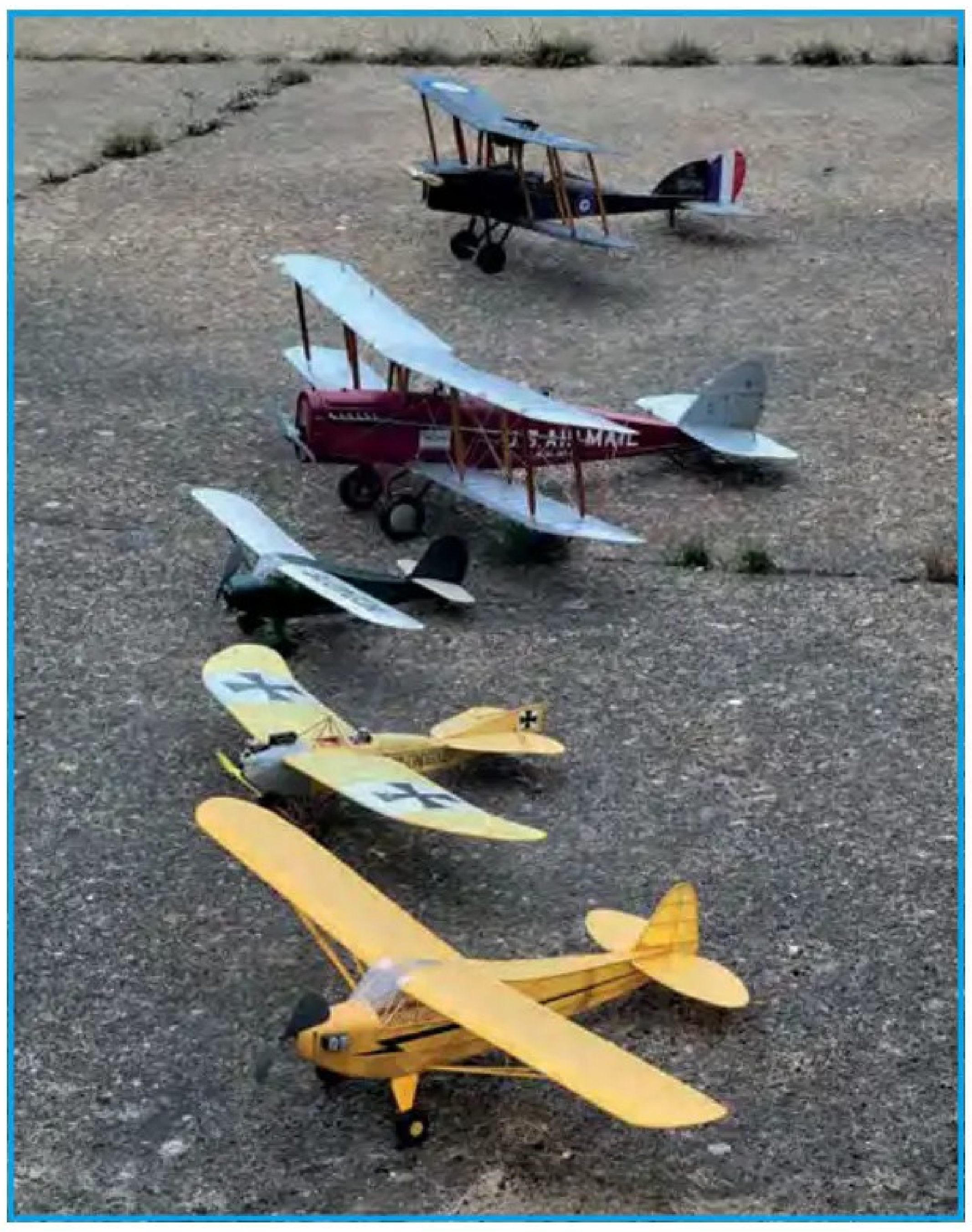
Name	BMFA	Model	1	Diff	2	Diff	3	Diff	Total	Place
FF3 Rubber Precision for the Scale Outdoor Precision Cup. (30 second flight target)										
Mike Smith	66560	Aeronca Defender	21	**9**	36	**6**	34	**4**	19	1
Ricky Bould	239064	Aeronca Chief	20	**10**	36	**4**	19	**11**	25	2
Brian Waterland	34414	Rearwin Speedster	22	**8**	19	**11**	19	**11**	30	3
Brian Lever	85382	Piper Family Cruiser	7	**23**	20	**10**	10	**20**	53	4
During this contest a memorial flight was made in honour of the late John Ashmole with his Interstate Cadet by Earl Stahl.										

Name	BMFA	Model	Power, Kit, Plan, Own Design	Pre-flight Assessment	Best Flight	Total	Place
FF2 Free Flight Scale for the Selby Trophy							
Graham Banham	153755	Piper Cub	Rubber, Aerographics kit	110	1560	1670	1
Charlie Jeffreys	68878	Rumpler 4C Taube	I/C, M.A. Plan	140	1340	1480	2
Nick Bosdet	047905	BE12b	I/C, Eric Coates Plan, Modified.	120	1260	1380	3
Ricky Bould	239064	Aeronca Champ	Rubber	110	1220	1330	4
Mike Smith	66560	DH4	I/C, Own Design	160	DNQ		

Weather conditions. Very slight drift in the morning to flat calm in the afternoon.

Thanks must go to the Flight Judges, Andy Green and Chris Grant, for stepping in at the last moment so I could enter.

Thanks also to the FFTC and Michael Woodhouse for making it possible to fly Scale contests.

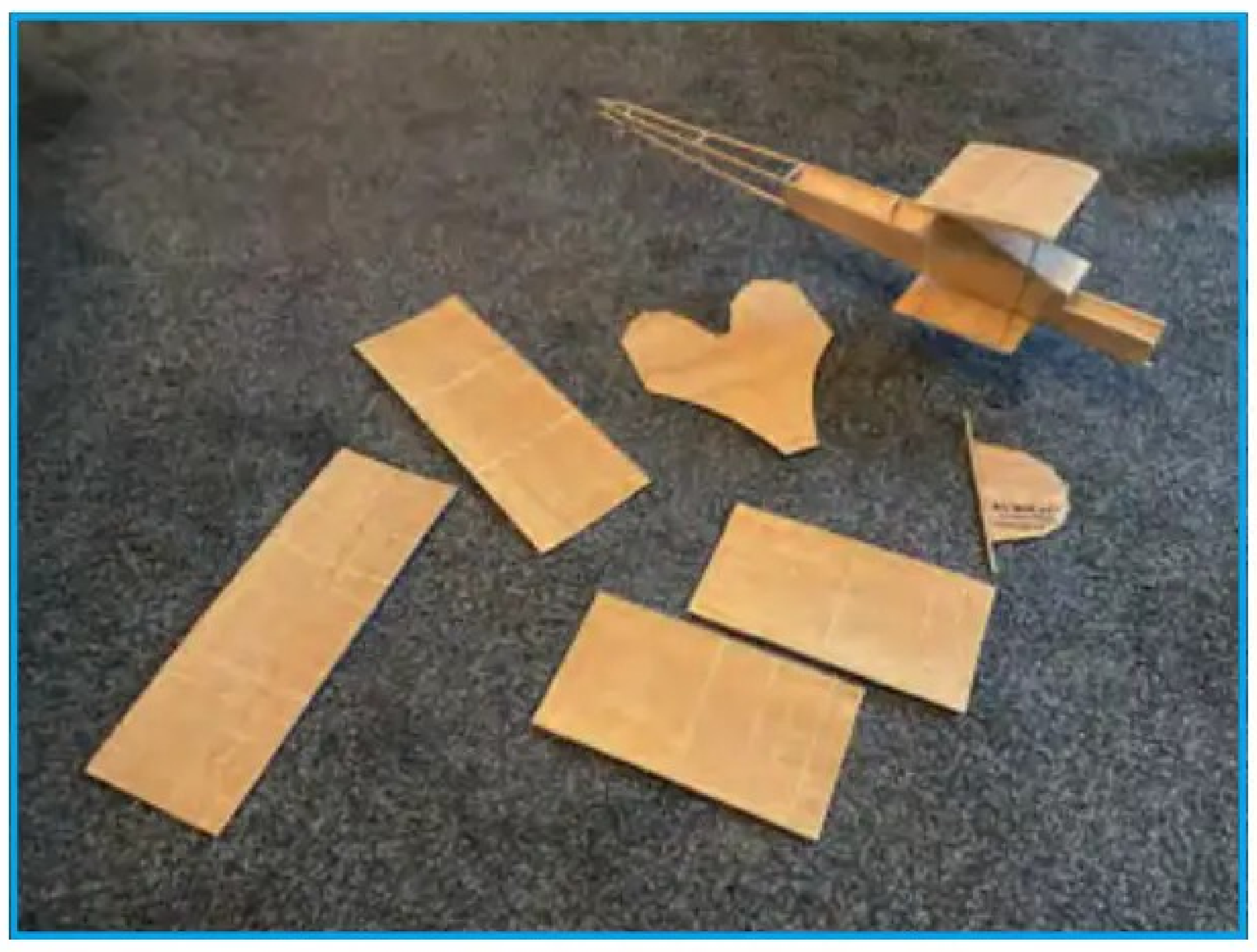


Preflight line up. Graham Banham’s Cub in the foreground, then Charlie Jeffreys’ Taube, Ricky Bould’s Aeronca, Mike Smith’s DH4 and Nick Bosdet’s BE12b. Sculthorpe, Scale contest at the FF Nationals (Mike Smith photos).

Graham’s winning 35” span Piper Cub. Built 15 years ago as a test build for the Mike Midkiff kit design. (Graham Banham photo).

AVRO D UPDATE

That’s nearly it for this month, which I’m aware has focussed on contests and flying rather than building, so I’ll just finish with a picture of the progress on my Avro D so far. The sheet wings are still flat at the moment, but once the occasional ribs are added to the undersides, they should start to take on a bit of shape. Next month I’ll go into a bit more detail on my approach to this build, which is proving interesting and enjoyable. Till then, do feel free to contact me on any scale related matters. My email is *peter@fardell.karoo.co.uk* ■



Avro D parts so far. Lots to do, but it’s starting to look like an aeroplane.

COTTAGE INDUSTRY DIRE

This Directory came about as a result of a BMFA 'In The Air Tonight' online webcast that was held early in 2024. During this webcast, several attendees mentioned that it is often difficult to find out where specialist materials and modelling goods can be obtained. As a result of these requests, your Editor offered to compile this directory of small, specialist suppliers.

Please note that this directory does not replace the Model Industry adverts that are regularly to be found in AeroModeller magazine. The directory is specifically for small specialist suppliers who would not be able to justify the expense of ook regular adverts.

For any items in this directory that are of interest to you, please contact the suppliers direct rather than through this magazine, that way you are bound to get far faster responses.

Any small specialist suppliers who are not already included in this directory, and who would like to be, please contact AeroModeller at editor@aeromodeller.com.

U.K. BASED

FREE FLIGHT SUPPLIES
MICHAEL J WOODHOUSE
12 MARSTON LANE, EATON, NORWICH
NORFOLK, NR4 6LZ, U.K.

Telephone: (01603) 457754
International Tel: +44-1603-457754
Email: mike@freeflightsupplies.co.uk
Website: http://www.freeflightsupplies.co.uk
FaceBook: https://www.facebook.com/groups/266212470107073
Product and ordering details available on the website.

MARTIN DILLY

Carbon Blanks for E20 and CLG/HLG
Martin Dilly has some carbon blanks available that are suitable for E20, and CLG/HLG. They will be available from mid July 2024. For full details, and prices contact Martin at the contact details below.

Dilly Jap Tissue

It is 12 gm/M2, with a strong unidirectional grain. It's white and low absorbency, so remains very light when doped. For those of you old enough to remember, it's identical to the Harry York tissue sold at his South London del shop in the 1950s.

Flying North - Jack North

A goldmine for vintage and nostalgia model flyers. Flying North is a fascinating 163 page book, and includes 130 photographs, reminisces by colleagues, re-prints of all Jack's published plans and articles, including his later extensive work on thermal detection, and an outline of the professional career that also made him such a respected name in high-speed aerodynamics.
Flying North proceeds go towards the costs of the national teams representing the UK at World and European Free Flight Championships.
Third Re-print now available.
Price £22.00 in the UK, £26 Airmail to Europe and £32 elsewhere.
For prices and availability contact Martin Dilly, details below.

Crowd On and Risk IT

This is the story of one of Britain's oldest and most successful model flying clubs, Croydon & District MAC, from 1936 onwards. The club contributed much to aviation, both model and full-size, and the late Keith Miller compiled its history till around 1960. Now, this updated 73 page version of the club's history, copiously illustrated with many previously unpublished photographs, takes the Croydon saga up to the present.
Contributions by past and present members vividly capture the atmosphere of the heyday of Free Flight, with almost weekly contests at Chobham and Bassingbourne.
53 designs by Croydon members have been published in the model press, and 24 of its members have represented Great Britain in World and European Championship teams. Several have gone on to notable careers in aerospace. Crowd On & Risk IT covers all this and more.
Just £8 by PayPal or cheque.
Contact Martin Dilly, details below.

FREE FLIGHT FORUM REPORT 2021

Indoor Duration - A Challenge To Conventional Design - Tony Hebb
Coupe In A Box - Gavin Manion
Building Other People's Mistakes - Stuart Darmon
The Models of Ray Monks - Simon Dixon
Simulated 3D Flight Dynamics - An Approach To Gain Insight for Trimming and Aircraft Development - Peter Martin
Building During Lock-Down - Phil Ball
Tame Your F1B and Related Thoughts - Mike Woodhouse
What Next For A Lady Flyer - Sue Johnson
F3 RES - RC For The Aging Free Flighter - Andy Sephton
From Wichita to Robin Iii - Mike Fantham
Further Thoughts on Carbon-Skinned Wings for F1A - Stuart Darmon
Geo Fencing and Electronic Stability - John Emmett

UK Price £13 including postage; to the rest of Europe £16, everywhere else £20.
Contact Martin Dilly, details below.

A Century Of British Free Flight

This book has been published to mark the BMFA's centenary. 155 pages of text, plans and photographs in colour and black and white trace the development and history of Free Flight from before Bleriot crossed the Channel to the present day. Nine Authors have pooled their talents to cover everything from the rise of the Vintage movement to electronic timers and GPS tracking. The histories of gliders, scale, rubber, electric, power models and Indoor are all explored by people who've spent most of their lives flying their classes.

All proceeds will go towards defraying the expenses of those representing the United Kingdom in teams competing at the World and European Free Flight Championships.

The UK price is £20 on the flying field, or £22 by mail, to Europe it's £25, everywhere else it's £28. Cheques should be payable to 'BMFA F/F Team Support Fund' in £ sterling, drawn on a bank with a UK branch, or order by credit card, which is a lot easier and cheaper.

Available from Martin Dilly, contact details below.

Contact Martin Dilly at:
Email: martindilly20@gmail.com
Phone 020-8777-5533
Or write to 20 Links Road, West Wickham, Kent, BR4 0QW.

BMK FREE FLIGHT PRODUCTS

BMK are a UK based company that specialise in electronic timers, Radio DT systems, GPS tracking systems, a Thermal Detection system, and a number of other products and accessories, including hard to find specialist LiPo batteries.

The BMK website is at www.bmks.co.uk

BMK also have a FaceBook page at https:// www.facebook.com/groups/bmkfreeflight which has frequent updates and where queries can be answered.

JETEX MOTORS AND PARTS

Roger Simmons has a very impressive and useful website at https://jetex.org/

As well as downloadable 'Jetex' plans, which include many unique semi profile modern designs (see https://www.jetex.org/jetex_plans/categories.php?cat_id=14) and good advice, we have stocks of TSP rocket motors.

These are more than equivalent to the old Rapier motors and, though we have some stocks of L-3 and L-4 motors, we now concentrate on the more popular L-1 and L-2 sizes. See: https://jetex.org/index.php/jetex-forum?view=topic&catid=8&id=439

We are able offer these new 'Spectre' motors at reduced prices for the UK modelling community.

US & CANADA BASED

MBS MODEL SUPPLIES

Supplying Quality products to serious modelers around the World.

MBS Model Supply
5322 NE Early Court, Topeka, KS 66617
Phone: (After 5pm Central Time or Weekends Only (785) 221-7042.

Melvin's stock is almost exclusively Control Line items and I recently ordered from him lines, line reels, bladder tube and end pieces, bellcranks and a few other bits and pieces.

Melvin was very patient - particularly in helping to sort out my being able to get the maximum amount of items, for the minimum amount ($30.45 in my case) of postage. Also, the amount which he charged me for shipping was the amount that it cost him to ship the items - he did not make even one cent profit on the shipping aspect of my order.

Apologies if I am 'teaching granny to suck eggs' - but the current [U.K] limit to avoid import duties, is £135 - which includes the shipping costs. U.K Value Added Tax [VAT] is, in theory, charged on all goods imported to the U.K., unless the goods are gifts worth £39 or less, or unless the price that you pay already includes U.K. VAT.

Regards, Jeremy Wilkins

KANATA AIRCRAFT MODELS

Kanata Aircraft Models is a small business in Kanata, Ontario, Canada producing short kits of many Radio Control, Control Line and Free Flight models. Some are vintage designs, and others are our own design. KAM has been in business for almost 30 years exporting kits from Canada as far as India and Australia.

Aeromodeller's past editor - Andrew Boddington - gave us permission to provide short kits of the Pinocchio motor glider (designed by his father, David) to North American customers.

Free copies of latest catalogues can be obtained by sending an email to kanataaircraftmodels@gmail.com

Mark Winstanley
Kanata Aircraft Models
kanataaircraftmodels@gmail.com
613-552-2054

RETRO RC - MARK FREELAND

My name is Mark Freeland, I am the owner, designer, manufacturer, packager, shipper, and janitor of Retro RC & Campbell's Custom Kits, www.RetroRC.us.com. There is only one person at Retro RC & Campbell's Custom Kits. So, I guess in response to your request in the March and April Hanger Doors for input for your Cottage Industries Directory that I may qualify.

I manufacture a variety of products ranging from RC & FF full kits and short kits, magnetic building jigs, toolboxes, battery boxes, glue caddies, accessories like thrust washers for rubber power. A recent addition of note is a Thermal Detector with an e'Paper graphical display of the past 4 mins of thermal activity. E'Paper is used as for its readability in direct sun light.

Each year I design & produce two kits specifically for the Science Olympiad contest (an annual US National Contest with many science disciplines between schools). One kit for the Middle School Flight event, and one kit for the High School event as they have different rules. (See the "Scholastics" page on my web site for this seasons offerings).

I also stock and sell many support items such as timers for E-36 and other electric FF models, FAI rubber, covering materials, wheels, motors, ESCs, props, printed plans and some Deluxe Materials products.

Thank you for continuing to produce the best all round modeling magazine in the industry, I have been a fan since my first purchase in 1968.

Contact Details
Mark Freeland
Tel: 01-248-212-9666
www.RetroRC.us.com
mark-freeland@sbcglobal.net (personal)
RetroRC@live.com (business)

NEXT ISSUE

HERE'S WHAT TO EXPECT IN THE NOVEMBER 2025 AEROMODELLER

1950 - 2025
68878

FREE PLAN

CHARLIE JEFFREYS 'SHOVE HA'PENNY'

CHALIE JEFFREYS DELVES INTO THE MYSTERIOUS DISAPPEARANCE OF ONE OF VIC SMEED'S MOST INTRIGUING AND ELEGANT DESIGNS, BRINGING IT BACK TO LIFE WITH A CONVINCING LOOK-ALIKE REPLICA.

BOB WELLS - QUICKIE

A VERY QUICK TO BUILD FOAM RC ASSIST MODEL WITH SUPERCAP POWER.

CATAPULTING ALONG WITH IVMAC'S FINEST

STUART MARSDEN REPORTS ON HOW HIS CLUB IMPINGTON VILLAGE MAC IS INTRODUCING YOUNGSTERS TO THE HOBBY OF AEROMODELLING BY STARTING WITH SIMPLE CATAPULT GLIDERS.

Subscribe Today Subscribe Today Subscribe Today
SEE PAGE 56

NEXT ISSUE ON SALE 20th NOVEMBER *contents subject to change*

British Model Flying Association

Protecting and promoting UK model flying for 100 years

Unbeatable membership benefits include:

- CLASS LEADING £25,000,000 liability cover.
- £35,000 personal accident cover as standard.
- CAA Operator Registration - made easy as part of our membership process.
- The BMFA News magazine for members available as a paid subscription or free download. Also, the ability to download the British Drone Flyers News.
- Expertise and guidance on all aspects of model flying is just an email or phone call away.
- Access to the BMFA Affiliated Club network (over 750 clubs)
- The BMFA Achievement Scheme - helping you succeed at your flying ambitions.

Yearly fee: Senior £49.00 / Junior £20.00
Family Partner £30 / Family Junior £15.00
Physical membership card £4.00
*NB membership year runs to Dec 2025

Are you ready to join us?

Join at: https://bmfa.azolve.com

T: 0116 2440028 W: www.bmfa.org E: admin@bmfa.org

BMFA, c/o BGA, 8 Merus Court, Meridian Business Park Leicester LE19 1RJ

ModelFixings.co.uk

also the home of ModelBearings.co.uk

EST. 2003 Fast mail order service

ALWAYS IN STOCK: **Huge range of miniature fasteners, including our socket servo screws**

● Taps, Dies & Drills ● Miniature Bearings ● Adhesives & Tools
● Circlips ● E-Clips ● Starlocks ● Shim Washers ● O Rings

Tel: +44 (0)115 854 8791 Email: info@modelfixings.com

Dens Model Supplies

Traditional and Electric CL/FF/RC

Cox 049 engines and spares...ECL kits....CL & FF Electronic Timers......Motors & ESC's.......CL accessories....UK agent for Heisbok laser cut FF and RC Kits

On Line shop at **www.densmodelsupplies.co.uk**
Or phone Den on 01983 294182
for traditional service

TAKE A LOOK AT OUR OTHER MODELLING TITLES

Model Military International
Model Magazine International
Model Airplane International
Slot

DOOLITTLE MEDIA

Doolittle Media Ltd., The Granary, Doolittle Lane, Totternhoe, Bedfordshire, LU6 1QX, Great Britain
W. www.doolittlemedia.com **E.** enquiries@doolittlemedia.com **T.** +44 (0) 1525 222573

Tail End Charlie

THE THOUGHTS OF CHRIS OTTEWELL

Aeromodeller par excellence and poet extraordinaire Charley Jeffreys.

SAFETY IS NO ACCIDENT

Was a very appropriate heading or slogan often used by the BMFA among others. I sometimes reflect on how safe the sport or hobby we all share is, especially considering the huge range of potential hazards we face. Just think about it for a moment –

- Toxic chemicals
- Highly flammable liquids
- Propellers rotating at up to 30,000 rpm
- Lithium batteries
- Sensitive radio systems and software

And that's before we even start on the main objective of our hobby, flying models weighing several kilogrammes and often more, at speeds sometimes well over 100 miles an hour!

I'm sure that the main reason for this is the strong safety ethos and practical guidance from the BMFA promulgated and emphasised through the network of UK affiliated clubs and the associated achievement schemes.

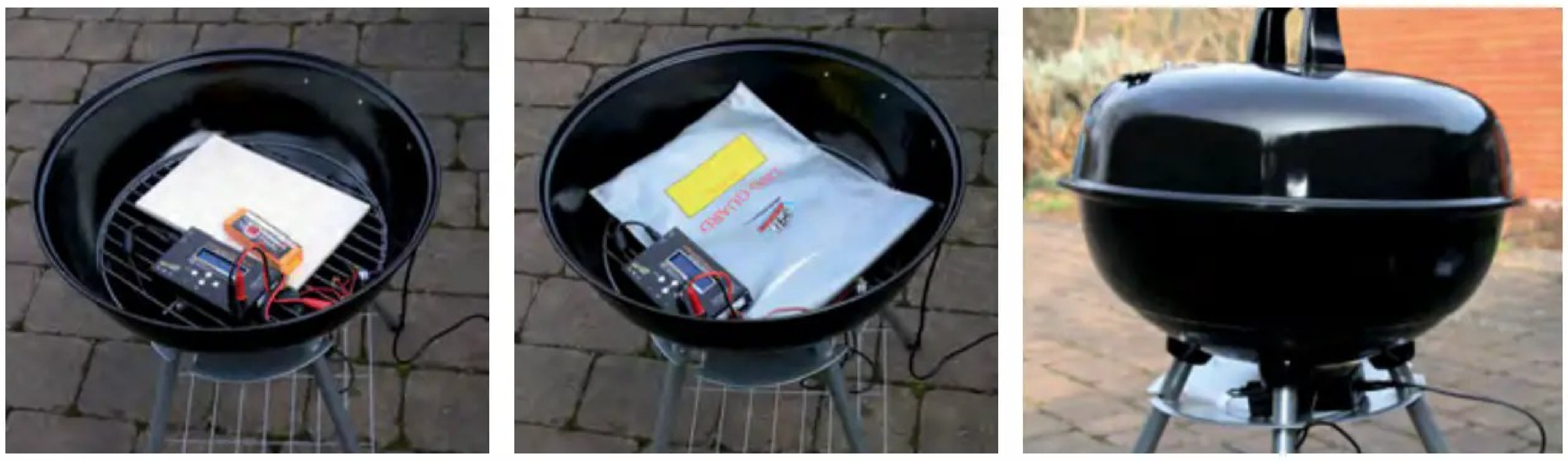
BUT ACCIDENTS DO HAPPEN

Sadly. it's impossible to avoid all accidents and I was brutally reminded of that as two friends of mine in different clubs and both experienced builders and flyers have had nasty accidents recently.

One was a straightforward "finger in the prop" incident, serious enough to warrant a trip to A&E, but not life threatening. The second however, was very serious indeed.

My friend, is a very experienced aeromodeller who knows and follows the rules. However, on the day in question, he put an old LiPo on to charge in his workshop then briefly popped into the house; yes, we know he shouldn't have done that but I bet we all do occasionally do this "just for a moment", or "I needed the toilet"!

Then his wife shouted out that a fire had started and he instinctively ran to his workshop with an extinguisher rather than dialling 999. Again, we all know not to do that BUT instinct is a powerful force; sadly, not as powerful as the blast which then threw him back out of his workshop, demolishing the whole thing. He thankfully survived but after a while in intensive care, is facing about a month in hospital and a series of unpleasant operations.



Chris's patent all weather outdoor charging station for LiPos.

WHAT CAN WE DO?

We will never eliminate accidents but we can keep them to a minimum. Firstly, we must build on the existing safety systems and learn every time we have, or nearly have an accident. And we need to share our "nearly a nasty accident" stories (I bet you all have them) with friends to make everyone aware of the possibilities and learn from other people' mistakes without having to repeat them.

Then we need to positively plan to avoid some of the obvious ones. For example, I have an outdoor all weather charging station for LiPos! It might sound quite grand, but it's actually a cheap BBQ bought from B&Q in an end of season sale a few years ago. I simply put it outside with the charger in the bottom of the unit and feed the cable though the bottom to a waterproof outdoor socket nearby. The LiPo or other battery sits on a ceramic tile on the grilling tray and the lid goes over the top and keeps any rain out. That way I might at worse lose a charger and perhaps a power supply, but my garage and more importantly my health will be fine!

We can also gently "rehearse" for the more serious and obvious incidents. For example, "back in the day" pulse jet flyers often had a rehearsed fire team ready and I believe that a lot of jet flyers today still do that, that's an obvious sensible idea.

Other obvious issues can be designed out of both our models and procedures; for example, today I don't think anyone would dream of using a smouldering cord as a dethermalizer as they did in my youth! They may not have been a serious danger to us, but they could certainly destroy a farmer's crop!

The introduction of Eze Dope by Deluxe Materials is another good example, it both removes the health hazard of dope fumes and also the fire hazard posed by bottles of dope and dope thinners stored in our workshops.

What safety tips and advice do you have to share with us?

THE BARD OF OLD WARDEN?

To finish on a lighter note, I really must share a piece Charlie Jeffreys recently sent me. Is he a budding sage and poet, or should he stick to aeromodelling? I love it, but please let me have your thoughts and ditties.

"Our fav'rite mag' has, quite bizarrely,
articles by Tail End Charlie;
envied by the wisest sages,
written on its final pages.
Quirky stuff or more mundane,
in C.O.'s quest to entertain."

And don't forget to send your comments and contributions (poetic or otherwise) to me either via the normal editorial address or by email to – *chrisottewell@anworld.com* ■

AERO MODELLER

SQUADRON BOOKS

10271
TBD Devastator
Dana Bell
In Action
Squadron/Signal

10272
AJ Savage
David Doyle
In Action
Squadron/Signal

NEW

10271 TBD DEVASTATOR IN ACTION

NEW

10272 AJ SAVAGE IN ACTION

In Action books are books that trace the development of a single type of aircraft, armoured vehicle, or ship from prototype to the final production variant. Experimental or "one-off" variants can also be included. The first In Action book was published in 1971.

ALSO AVAILABLE

B-36 Peacemaker
David Doyle
In Action
Squadron/Signal

10270 B-36 PEACEMAKER

F-16 Fighting Falcon
David Doyle
In Action
Squadron/Signal

10269 F-16 FIGHTING FALCON

DETAIL IN ACTION
- B-25 MITCHELL
- M19-M20 TANK TRANSPORTER
- F8F BEARCAT

AIRCRAFT WALK AROUND
- SAAB 37 VIGGEN
- HEINKEL HE 111
- F9F COUGAR

ARMOUR WALK AROUND
- VALENTINE TANK
- PRE-STANDARDIZED JEEP
- PANZER 38(T)

And hundreds more...

www.doolittlemedia.com

E. enquiries@doolittlemedia.com **T.** +44 (0) 1525 222573

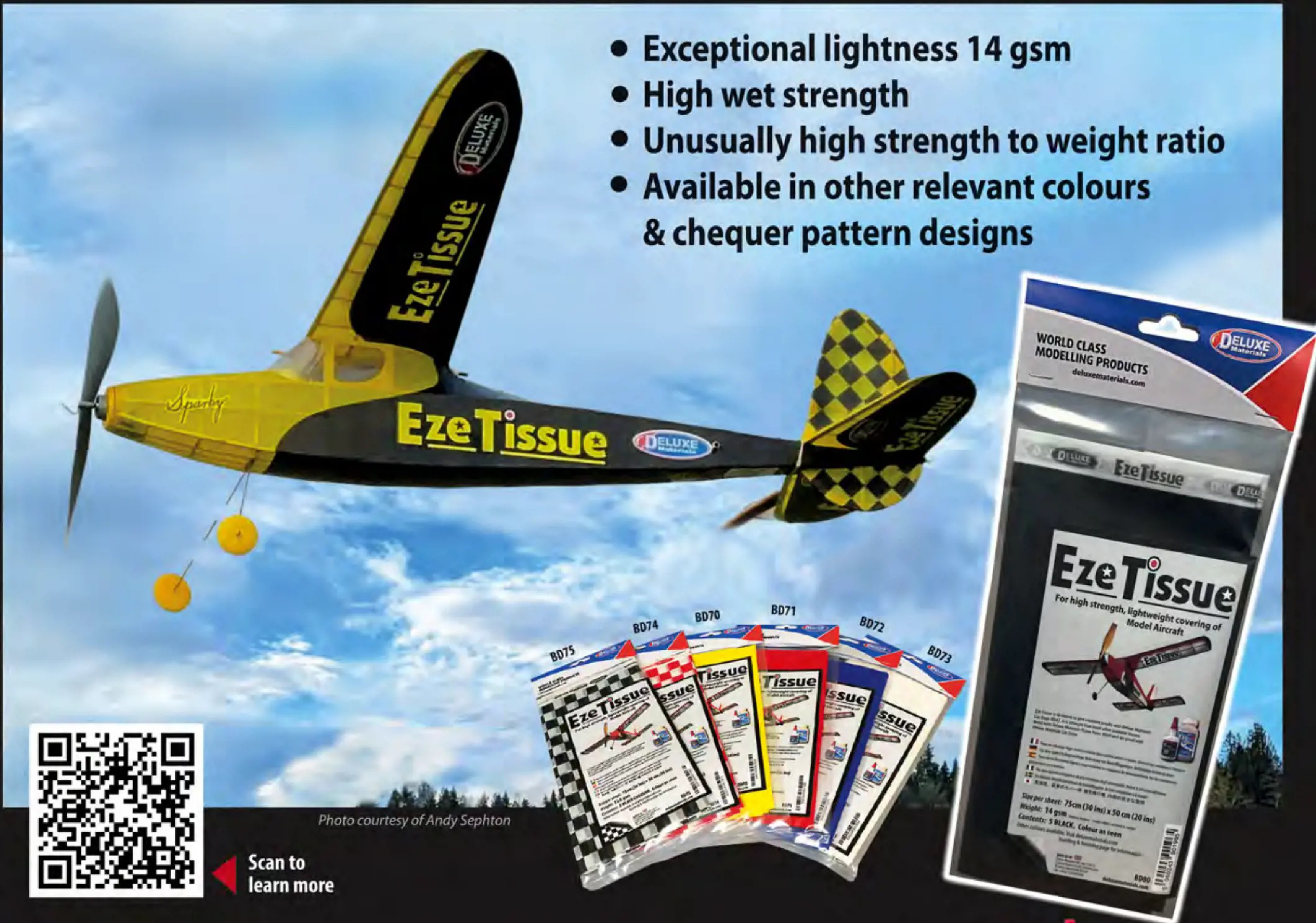
Doolittle Media Ltd. The Granary, Doolittle Lane, Totternhoe, Bedfordshire, LU6 1QX

DELUXE Materials

Fly light!
Fly bright!

EzeTissue

A specially developed
lightweight tissue paper
for high strength covering of model aircraft


DELUXE Materials
EzeTissue
Sparky
WORLD CLASS MODELLING PRODUCTS
deluxematerials.com
EzeTissue
For high strength, lightweight covering of Model Aircraft
BD75
BD74
BD70
BD71
BD72
BD73
BD80

- Exceptional lightness 14 gsm
- High wet strength
- Unusually high strength to weight ratio
- Available in other relevant colours
& chequer pattern designs

Photo courtesy of Andy Sephton

Scan to
learn more

BD80 Black
Another exciting new colour added to our range!

Eze Dope
Tissue Paste

Use with
BD42 Eze Dope
AD60 Tissue Paste

You Tube Creators of innovative & safer model hobby products for over 50 years

Available from all good model shops & through our network of international distributors: in UK ripmax.com. Ripmax

In N. America by Horizon Hobby. Consumer enquiries towerhobbies.com.
& direct from specialist retailers retrorc.us.com & wind-it-up.com
Australia by Hobbies Australia hobbiesaustralia.com.au.

In case of difficulty: **BUY FROM deluxematerials.com Tel: +44 (0) 1529 455 034**

For european
distributors
scan here